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FIBROID PHTHISIS

In reference to fibroid phthisis it is very important to remember the definition we have given of pulmonary phthisis—that is to say, it is "that assemblage and progression of symptoms associated with and dependent upon the ulcerative or suppurative destruction of more or less circumscribed non malignant deposits in the lung." This is our generic phthisis varieties are indicated by the prefix of adjectives indicating the physical nature of the consolidation, and hence it is that any fibroid induration of the lung with cavities therein has been called fibroid phthisis. The next point, and it is only the salient points that I wish to reproduce before you to-day is the essential characteristics of this fibroid disease of the lung. The first is that it is as a rule non febrile except on occasions when intercurrent disease arises, the second is that it is chronic, the third is that it is compatible with prolonged average good health, and the last that I think worth while to mention to you upon this occasion is the fact that it is not incompatible with the longest duration of human life. A few years ago some of you remember—Dr Hadley remembers—there was a patient in the female ward seventy-six years of age with fibroid phthisis of the left lung.

COMPLICATIONS IN FIBROID AFFECTIONS OF THE LUNG

The next point of importance is the question of the complications to which this fibroid affection of the lung is subject. There is first of all gastro hepatic catarrh, secondly, albuminuria, thirdly, attacks of diarrhoea, fourthly, hæmoptysis, fifthly, dropsy; and lastly, nephritis. Now I here interpolate an important observation, it is, that I have never yet seen a case of this affection of ten years standing without albuminuria, and that albumen frequently appears in the urine even before the second year of the disease. The last point to which I shall now advert in relation to this subject is the nosological position of fibroid disease. With respect to the first stage of it, mere fibroid consolidation or induration, there is no conflict of opinion. Concerning the second stage, that is with fibroid induration and dilatation, more or less, of the bronchial tubes, there is considerable discussion. A tendency has shown itself among certain observers to call this form bronchiectasis, but to call it by this term is merely to take note of one of the leading pathological factors of fibroid disease and to make it the distinguishing characteristic. I

do not think there is anything intrinsically wrong in this, but it diverts the mind from the real cause of the bronchial dilatation which is the fibroid affection of the lung, and this affection is either primary or secondary, rarely primary but usually secondary to a dry pleurisy, to prolonged bronchitis, and to unreduced pneumonic deposits. The third term, "fibroid phthisis," is maintained on account of the definition which was given to you at the beginning of this instruction. But there are two nosological aspects of it, and here again there is the greatest conflict of opinion.

TUBERCULO FIBROID PHTHISIS

I wish to explain that in all these cases which you have seen of this disease, and they have been many, no tubercular bacilli have been found, and hence, in no sense of the word, according to the present state of pathological knowledge, can these be called cases of true tubercular disease, because, as you know, at present the criterion of a tubercular affection is the presence of the tubercular bacilli in the affected part. Now in this fibroid induration one of the most interesting points is that in the greatest number of cases no tubercular bacilli make their appearance at any time. But in a certain small proportion of cases, when the lung has been attacked by colds or pleurisies or pneumonia, tubercular bacilli make their appearance, cavities form, and then in harmony with prevailing doctrines, the term tuberculo-fibroid phthisis may be justly employed. And of course, if a case came before us here of fibroid disease of the lung, with or without dilated bronchi, with cavities and with bacilli in the expectoration, we should be bound, in just loyalty to the present state of our knowledge, to call that case tubercular phthisis. But we are bound also to recognise the fact of the presence of the fibroid material which makes all the difference between what one may call ordinary tubercular phthisis where there is no such large amount of fibroid disease and that kind of tubercular phthisis where there is. The difference appears in this way that whenever in a case of tubercular phthisis the lung is riddled with small cavities and studded with tubercles surrounded by pneumonic exudations the progress of that disease is as a rule febrile and comparatively rapid, but, on the other hand, mark this that whether bacilli be present or not the course of that case of tubercular phthisis in which the fibroid element dominates the rest of the pathological changes will be very slow, it will be unattended with fever, and it may last for many years.

ACCOMPANIMENTS OF TUBERCLE.

I wish here to emphasise the fact that two marked secondary structural affections either accompany or follow the deposit of tubercle in the lung. One of these is the occurrence of a pneumonic exudation round the tubercles and the other is the appearance of a zone of fibroid tissue, and you can with perfect confidence foretell the general course of tubercular phthisis by the dominance of one or other of these secondary affections. If fibroid tissue for the main part surrounds the tubercles the progress of the case will be slow and fever will not be prominent, but if, on the other hand, pneumonic changes dominate the progress of the case will be rapid and fever will prevail.

RESUME.

That is all I have to say just now, but I will bring in the cases and I will put them before you, and I hope that what you will see to-day will satisfy you that this fibroid disease of the lung is not very rare, and that it is very important for the safety of the patient and your own credit that you should know the causal history of it—namely, its slowness its freedom from fever and the duration of time over which it may extend.

GENERAL HISTORY OF THE CASE.

I purpose now considering with you the case of a little girl provided for our instruction by Drs Hadley and Chaplin. You see she is undergrown and somewhat ill developed but she is well nourished and there is no history of loss of flesh. She has a large head, the features are swollen, the eyelids are baggy, the face is purplish, she is round shouldered and has clubbed finger ends. Menstruation has not yet appeared. There is no family history of phthisis, of alcoholism or of syphilis. The patient has been ill since she was two years and a half old and the illness began with a severe whooping-cough followed a few months afterwards by measles. Since then she has never been free from chest trouble, becoming worse in winter and better in summer. At present she suffers from cough from rather profuse expectoration and from shortness of breath. But for these

¹ For the first of these Clinical Instructions see THE LANCET of Jan. 2nd, and for the second THE LANCET of July 2nd, 1892.
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likely to avert complications or conduct them, if they arise, to a successful issue and to prolong life? I do not intend to discuss to-day the treatment of this patient, but some days hence, when I have examined with you a few more cases of fibroid disease of the lung and have made you familiar with their different aspects, I shall discuss the question of treatment on such broad lines as will convey to your minds those general principles of management which my experience has taught me to adopt and employ

[The coloured plate presented with this lecture represents a section of lung with diffuse fibroid change, accompanied by thickened and dilated bronchi. The whole lung is much contracted and all but the very base is involved in the change, which is especially marked in the inter lobular septa and around the vessels and bronchi, the spongy texture being in great measure replaced by fibrous tissue. Some enlarged, indurated and pigmented glands are to be seen at the root of the lung—ED L.]

THE CORRELATION OF STRUCTURE, ACTION AND THOUGHT, INAUGURAL ADDRESS,

*Delivered at the Royal Medical Society of Edinburgh on
October 21st, 1892,*

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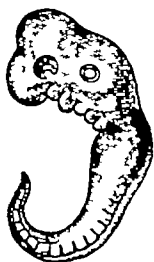
[WITH COLOURED PLATE.]

MR. PRESIDENT AND GENTLEMEN,—Allow me to return you my most grateful thanks for the honour which you have done me in asking me to address you to night. I believe that there are none here excepting myself who can understand how grateful I feel, because no one else can know how much I owe to this Society. I have been compelled during my life to do a good deal of speaking and of writing and yet these are the two things which above all others I dislike and for which I am naturally entirely unfit. Had it not been for the training which I received in this Society I do not think that I should ever have been able to speak in public at all. In relation to speaking and writing I often recall an anecdote told me by my poor friend the late Dr Milner Fothergill

But it is not only in speaking and writing that I owe my training to the Royal Medical Society of Edinburgh, I owe to it also my first initiation into scientific methods—my first instruction in scientific scepticism. I well remember that on one occasion a member made a certain statement, he had no sooner sat down than he was challenged by my friend, Dr John Wylie. The first member again rose to his feet and maintained that his statement was true, and that his facts were correct because Professor So-and-so had said so. Again Dr Wylie rose, and with the simple question, "But is Professor So-and-so right?" swept away the ground from under his opponent's feet and gave me a new insight into scientific evidence. Previously I had been inclined to accept all the dicta of the professors as Gospel truth, but from that time onwards I accepted them only with the proviso that Professor So-and-so might possibly be wrong. Training like this, gained by a student in the discussions at the meetings here, is of the utmost possible importance as supplying a valuable part of medical education and complementing the instruction which he gains in the lecture rooms, it enables him to sift the statements which he there hears and to assimilate them in his own mind, so that they become as it were part of himself, and afford him a basis of knowledge upon which he not only can act in daily life, but from which he may advance onwards and benefit both his profession and the world at large by new discoveries. This training is so invaluable that I should look upon anything which would interfere with it as detrimental to the student, for a little knowledge, like a little food, if well assimilated, is more useful than an undigested mass, which may be not only useless but positively injurious.

The numerous discoveries which have been made during the twenty nine years which have elapsed since I first took my seat in this hall as a member of the Society have tended to increase the mass of facts which the student has to learn, and the numerous examinations have tended to foster a system of cramming which is totally distinct from that of true education. For the purpose of examination the student is tempted to load his memory with many details and to learn by heart statements which may or may not be true, simply for the purpose of committing them to paper and thus gaining good marks in competitive examinations without considering in the least whether these statements are true, or whether the facts, so called, are likely to help him at all in his future life. The period during which I regularly attended the meetings of this Society was a transitional one, because the number of examinations, competitive and professional, was then beginning to increase. I trust it is not true, but I have heard that since my time the examination incubus has been weighing even more heavily upon men than it did then, and has been interfering to some extent with the activity of the discussions in this society. Yet even if it were true it can hardly be wondered

FIG 1.



Chick.

FIG 2.



Tortoise

FIG 3.



Hog

FIG 4.



Man.

(After Haeckel.)

regarding a beaver which an American said he had chased so hard that it had been forced to climb up a tree to escape him. "But," said his hearer, "beavers cannot climb trees." "Well," replied the American, "I guess this one had just got to." Now this Society played to me the part that the American did to the beaver and forced me both to speak and write, and I am therefore very grateful to it. My first attempt at writing was the dissertation which the rules of the Society demanded and my first attempt at speaking was made in this room when I stammered out half a dozen words, each one broken into bits by the palpitations of my heart, and then thankfully sat down.

at, for it seems to me that we are living at a period which is not only one of the utmost activity, one of the most startling progress, and one of the keenest excitement for all engaged in research, but at the same time it is one of the utmost difficulty for all those who are engaged in the study of medicine, surgery and the allied sciences. For the number of facts is not only enormously great, but is daily increasing at a rate which threatens to make it almost impossible for any ordinary memory to retain them all. Yet the darkest hour is that before the dawn and I believe that shortly medical study will become very much easier. The great difficulty that the student has in remembering facts is that

symptoms and her undue liability to feverish colds, the patient declares that she would be quite well. The cough is paroxysmal and often ends in retching or vomiting. The expectoration is muco purulent, abundant, and often discharged in mouthfuls at the close of a paroxysm of coughing. It is not fetid, and, although many times microscopically examined by various persons, no tubercular bacilli have been found in it.

EXAMINATION OF THE CHEST

On examining the chest we find that the thorax is barrel shaped, that its movements are unequal, and that it rises rather than expands on inspiration. The right side is much smaller than the left, it is flattened and retracted, it moves very little during respiration and the intercostal spaces are almost effaced, the veins of the neck are distended and are not emptied on inspiration. Portions of the upper and lower divisions of this side are drawn inwards during the inspiratory movements, the cervical and upper brachial regions are a little swollen, and the respiratory movements, which are laboured, are about 25 in the minute. On more narrowly examining this right side you can see the impulse of the heart immediately in front of the right nipple, whereas no cardiac impulse can be seen or felt in its usual position.

THE POSITION OF THE HEART

Let me here arrest your attention for a moment to consider this instructive sign of disease which I have just mentioned to you. It is of the first importance to determine early in the examination of a chest the place where the heart is beating. This determination will preserve you from many mistakes, and sometimes it will throw a great light on the nature of the disease which you are investigating. When you find the heart beating in the right side of the thorax the displacement is due to an error of development, to air or to fluid in the left pleura which has pushed the heart aside, or to a contraction of the right lung which has pulled it over to fill the space created by the contracted organ. In the case before us we shall soon see that as there is no error of development and no air or fluid in the left pleura the displacement of the heart which exists must be due to a contracted lung.

UNUSUAL ACTION OF THE HEART

As I have spoken of displacement of the heart let me add a word or two about its action. The heart, which is somewhat enlarged, acts in a very notable way. Its action is clear, strong, deliberate, the first and second sounds are loud and sharply defined, and the second sound follows the first at a considerably longer interval of time than occurs in the normal condition. These characteristics of the heart's action in this case are very different from the characteristics of the heart's action in ordinary tubercular phthisis, and so common are they in cases of fibroid lung that I have been able, many times to discover the state of the lung merely from the mode of action of the heart. I shall probably have to recur to this subject on another occasion.

THE CONDITION OF THE RIGHT LUNG

Let us now return to the condition of the right lung. I have already pointed out to you that the right side of the thorax is retracted and moves imperfectly in the upper third except over the divisions of the larger bronchi. Tactile vocal fremitus is diminished and in the lower two thirds it is almost annulled. There is dullness to percussion over the whole of the right side posteriorly, moderate above and complete from about the middle to the base of the lung. In front the dullness has a tubular character somewhat resembling the note elicited on percussing the summit of a child's lung the lower part of which is surrounded and compressed by fluid.

AUSCULTATION

Over the summit of the lung one hears bronchial breathing coarse, moist, subcrepant rales and pleural creaking. The vocal resonance is bronchophonic. From the clavicle to the nipple you can hear coarse moist crepitations and creaking. From the nipple downwards scarcely any sounds are heard and vocal resonance is almost inaudible. Below the spine of the scapula and towards its inner side the tactile vocal fremitus is much increased and there is bronchial breathing. The vesicular murmur is replaced by loud subcrepant rales, the vocal resonance is bronchophonic and almost pectoriloquous, and pleural creakings are heard throughout both respiratory movements. Immediately below this only faint moist crepitations are heard with diminished vocal resonance. Throughout the base the respiratory sounds and resonances are inaudible.

CONCURRENT PHYSICAL SIGNS AND THEIR INTERPRETATION

Let us here pause for a moment to consider this concurrence of physical signs present in the base of the lung, partial effacement of the intercostal spaces, an almost even surface, diminished movement, abolition of tactile vocal fremitus, inaudible breath sounds and suppressed vocal resonance. What interpretation would ordinarily be placed upon this assemblage of physical signs? Without the closest critical examination what interpretation is indeed often put upon them? Often such a concurrence of physical signs is held to be conclusive as to the presence of fluid in the pleural cavity, and often operations, not always without peril, are performed for its withdrawal. Doubtless exploratory operations are in some circumstances unavoidable, and usually they are harmless, but, on the other hand, it is desirable to avoid the performance of an operation which is unnecessary and may be injurious. A careful study of the physical signs will generally prevent you from forming an erroneous judgment. If there are diminished movement and contraction of the affected part, if such dullness as may be present is not influenced by the position of the patient, if the outlines of the dullness are the same in all postures, if any displacement of organs exists, if the displacement is towards the dullness and not from it, if pleural creaking is heard in the dull region and if the results of percussion and of auscultation vary somewhat at different points you may be almost certain without further knowledge of the case that you are dealing with a consolidated lung. But you cannot be quite certain, for on rare occasions small empyemata or locular pleuritic effusions exist, and no refinements of physical exploration and no degree of skill in their use will enable you conclusively to distinguish between them. You must explore, and in exploring you must remember that in a few cases death has resulted from this simple operation.

GENERAL CONDITION OF THE PATIENT—DIAGNOSIS

Resuming our examination of the patient we find that there is no conclusive evidence of the existence of disease in the left lung. As I have already stated the cough is paroxysmal, and in the morning it sometimes brings about retching with the discharge of muco purulent sputa devoid of fœtor. In the sputa no tubercular bacilli have been found and no connected areolæ of elastic tissue, on the other hand, every specimen examined has been found swarming with micro-organisms of various kinds. Now, let us turn to the general condition of the patient in order to determine if it has been in any way affected by the presence and persistence of the disease of the right lung. The tongue is large, white, watery, indented, it is a catarrhal tongue. The appetite is good, there is no indigestion, the bowels are regular, the urine is abundant and doubtfully albuminous. There is no evidence of disease or of material disorder of the nervous system. To repeat what I said of the patient at the beginning she feels quite well except for the discomforts caused by the varying conditions of her affected lung, and those discomforts, as you have seen, are neither constant nor serious. What is the nature of the patient's malady? The reply will vary according to the school of thought from which the reply may emanate. For example, in one case the malady will be called "contractile phthisis," in a second it will be called "tuberculosis with contraction" and in a third it will be called "bronchiectasis." For my own part in obedience to what I believe to be a simpler and more scientific terminology, I diagnose the disease as a fibroid lung with dilatation of bronchial tubes and perhaps a small cavity. It should be, I think, a cardinal principle in naming that the name applied should involve no hypothesis which, although accepted to-day may be rejected to-morrow, and that if possible the designation of any given disease should be founded on some physical and abiding quality of its nature. It is mainly to improper naming that we owe the confusion of ideas which at this time invest and enter into all our discussions concerning tuberculosis and pulmonary phthisis.

THE PROGNOSIS

What now is to be said of the future of this case? Liable to many complications which may imperil and terminate life—to bronchitis, pneumonia, pleurisy, hæmoptysis, to nephritis and to general dropsy—the patient may nevertheless, with judicious care in the management of her daily health, achieve the longest duration of human life. What is the treatment to be pursued in this case? By what system of management, by what administration of drugs are we most

cramped for room, and periodically burst its shell, leaving itself naked, weak and defenceless. The right thing to do is evidently to do like the vertebræ, and have the hard parts inside, and the soft parts outside, but the relationship of these parts is a sore task upon the student's memory, and to many a one anatomy is a burden too heavy to be borne and the unfortunate youth is forced by it to leave the study of medicine and turn his attention to some easier pursuit.

Now, I think that with a little trouble one may find a way of linking anatomical relationships together in a more rational way than that of "Bodfi," a word which in my student days was used as a mnemonic to describe the form of the hippo campal convolution of the brain—backwards, outwards, downwards, forwards and inwards. The word also served to describe the course of the ribs, but Dr Anderson Stewart has shown us how naturally the peculiar twist the ribs take in a man arises from his upright position. Taking a circular steel hoop, and simply hanging it up by one side, he shows that it

FIG 6

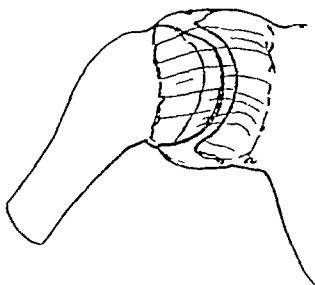


Diagram of shoulder joint, to show the capsule.

FIG 7

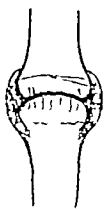


Diagram of ligaments of phalanges—a capsule and lateral ligaments.

assumes an oval shape, like that of the thorax of animals going upon four legs and whose ribs hang vertically from the spine. On raising this up by one point it becomes twisted upon itself and takes precisely the peculiar bend which the ribs possess in man. The advantage of a naturally jointed skeleton is so obvious that I need not further discuss it here, nor need I discuss the texture of bone which has been so admirably treated of by my friend Dr Donald MacAlister of Cambridge (Fig 5).

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FIG 8

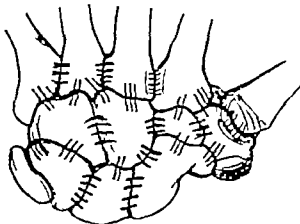


Diagram of the ligaments of carpus as seen from behind. Besides these there are ligaments passing in various directions so as to bind the bones more firmly to each other.

have a simple capsule because it cannot be particularly strengthened at one point or another without interfering with freedom of movement. In the case of a hinge-joint, such as those of the fingers or toes, elbows or knees, you will have the capsule remaining thin at the front and back so as to leave the movement free, but you will have it strengthened at the sides so as to tie (Fig 7) the bones more firmly together, and the stronger parts are called lateral ligaments. If several bones have to be connected each one must be tied first of all to the one nearest it, and then two or three must be tied together at a time, and in this way we get the network of ligaments which we find at the wrist and tarsus (Fig 8). The same thing is true

of muscles and, as Professor Goodair used to point out the muscles of the back, so perplexing at first, are really quite simple in their arrangement. For each of the spinæ vertebrae has to be bent and straightened and has also to rotate more or less upon its neighbours, so as to allow the upper part of the body to swing round upon the lower. We have therefore muscles going from the spine of one vertebra to the spine of the next, and then muscular strips stretching over a few and then over many vertebrae, so as to straighten the spine either in part or whole, as the movements may require. A similar arrangement holds good for the muscles passing from the spines to the lateral processes and which rotate the vertebrae on one another.

But if we are to group the muscles and nerves of the body into one easily remembered whole, we must see what is the chief function to be subserved by them, what is the centre of the little universe which they compose. The function of most imperious necessity is respiration. A man may starve himself to death, but he cannot kill himself by holding his breath. He may refuse food, but he cannot refuse air. In the child the function of respiration is the first which evidences itself after birth, and the muscles which subserve it are more fully developed and more perfectly innervated than others. The nerve channels which supply them are, as it might be termed, more deeply grooved than others and it is along these channels that superabundant energy overflows in the movements of laughter which evidence joy. This has been very fully and wisely explained by Herbert Spencer in his essay on "Laughter." But the great poet, whose recent death the whole civilised world is now deploring, has classed together in a few pregnant words the channels through which the overflow of energy may run in their proper order. In describing the joy evinced by a baby on seeing its mother, Tennyson says it

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There are two prevalent ideas regarding the origin of man. One is that he started full grown and perfectly developed from the dust of the ground, and lived in a garden which he "dressed and kept." The other is the Darwinian one, that man is developed from an arboreal animal like the monkey, though lower than the monkey. It matters not which of these ideas we take, because they perfectly agree that primitive man lived at first in a kind of paradise where he was not exposed to the attacks of wild beasts, and where he fed on the fruit which he plucked from the trees around him. The story of Adam and Eve has got the advantage of not only being more poetical, but it is very much more easy to discuss the actors in the scene by the names of Adam and Eve, than by the terms "male" and "female frugivorous animal."

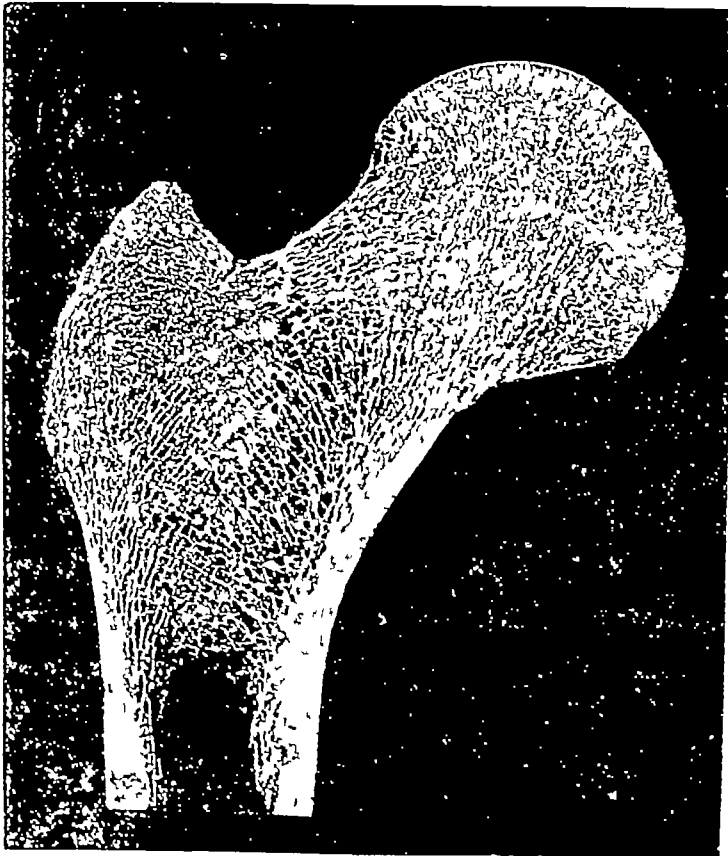
Let us take then the story from Genesis. One day Eve went into the Garden of Eden—saw an apple upon a tree—plucked it, ate it, and then went to get another for Adam. In trying to analyse the muscles concerned in these acts, the easiest way is to go to your bedroom, strip off your clothes imitate Eve's action, and as you do so, feel out the individual muscles as they contract under the skin. This plan of learning the muscles is one which I used to follow as a student of anatomy, and I found it a very useful one indeed. If you do this you will find the muscles of the neck, shoulder, arm, fore arm and hand contracting successively or together in coördinated movements, which are beautifully adapted to

they are isolated and not coördinated together. In a book on memory which I once read the writer summed up his whole science in one sentence, "Observe, reflect, link thought with thought, and think of the impressions." This is easy to say but not so easy to do, and it is the difficulty of linking thought with thought that makes the tax upon the memory of the medical student so exceedingly great.

Now it seems to me that one of the objects which this Society should set before itself should be not only that of training its members in the art of speaking and writing, of sifting facts and criticising statements, but of linking together and coördinating the data which they are called upon to recollect. When the science of astronomy was younger and the earth was supposed to be the centre of the Universe, the motions of the planets were known with sufficient certainty to calculate eclipses, but they could only be brought into conformity with their supposed relationship to the earth as the centre by the most cumbrous system of

greatly to understand why the shape of the ovary, the nature of the ovule and the position of the embryo should be such important characters in determining the genus of plants, and I devoutly wished that plants had been made in such a way that one could settle their nature by characters visible to the naked eye and not requiring a pocket microscope. But the reason for all this at once became evident when the Darwinian doctrine showed that it is in these embryonic characters that relationships are to be discovered and that it is in later development that differences occur. As Haeckel has shown the embryos of the tortoise, the dog, the fowl and the man are all nearly alike in the early stages of foetal life (Figs. 1, 2, 3 and 4), utterly different as these creatures may be when they have attained their full development—the Darwinian doctrine has thrown a flood of light on the relationship of plants and animals, and shows us that when animals have got as it were on the wrong track however far they may go in it, they never come to anything very good.

FIG 5



Section of head of femur to show the arrangement of the fibres of bone so as to give strength to it. (From Donald Macalister.)

hypotheses and by ideas of cycles and epicycles which must have burdened the astronomer's memory to the last degree. So soon, however, as the sun and not the earth was recognised to be the centre of our system the whole of the observed facts were seen to be in complete harmony and the relationship, comparatively speaking as simple as A B C. In our own time we have seen somewhat similar occurrences in regard to the relationship of animals and plants or I might shortly say, of all living creatures to one another. It used to be assumed that the highest plants and highest animals were to be compared together but all attempts to make this comparison rationally were unsuccessful, and it was only when an old member of this Society Mr Charles Darwin, pointed out that animals and plants had sprung from one common ancestor and had diverged in different directions that the various relationships became intelligible. I well remember that when learning botany it puzzled me

Nobody expects much of a jelly fish. Its soft, pulpy substance is incapable of anything but the simplest movement, and no animal that has not something hard to steady it can greatly excel the jelly fish. The soft molluscs which use their hard casing only for protective purposes, like the oyster and the snail, are bound to stay low in the scale of existence, and the highest mollusc (the octopus) appears to be striving after something better, but only by the aid of an attempt at a skeleton—the so-called cuttle-fish bone. But this has no joint in it, and even the octopus does not amount to much. Articulata with their jointed skeletons have reached such a pitch of social organisation as to be held up for examples to mankind, and ants and bees are regarded by some as almost the mental equals, if not the superiors, of some of the savage tribes of mankind. But the outside skeleton is a sore disadvantage for the animal must either remain without growing in size, or else it must be periodically

cramped for room, and periodically burst its shell, leaving itself naked, weak and defenceless. The right thing to do is evidently to do like the vertebrata, and have the hard parts inside, and the soft parts outside, but the relationship of these parts is a sore task upon the student's memory, and to many a one anatomy is a burden too heavy to be borne and the unfortunate youth is forced by it to leave the study of medicine and turn his attention to some easier pursuit.

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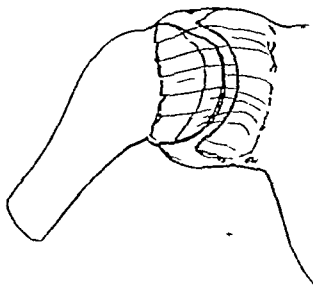


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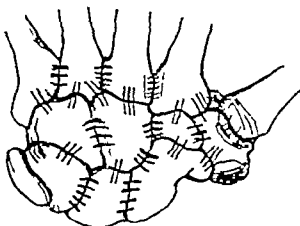


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the purposes just mentioned. We might take the muscles which produce these movements one by one, but I think it is easier for the purpose of grouping them, though not so good for the purpose of study in your own room, to consider first of all the motor centres in the brain from which the stimuli proceed. Before proceeding to consider these I wish to draw your attention to the errors into which one may fall regarding the action of muscles as well as of the motions of the planets by regarding them from a wrong point of view. Thus, the action of the tensor vaginæ femoris is usually said to be that of rotating the thigh inwards upon the body and thus turning the foot and toes inwards also, an action which is denounced in all calisthenic exercises. But this muscle was not introduced into the body for the sole purpose of plugging drill sergeants and dancing masters. As the late Professor Sharpey used to point out, we ought to look at its action from the leg as a fixed point and then we discover its true uses at once. Place your hand at the side of the hip over the muscle and march forwards. You will then find that when one foot is planted firmly on the ground the corresponding muscle becomes tense whenever you lift the other leg and try to advance it. Whenever the other foot is raised the muscle rotates the body outwards on the fixed thigh and thus brings the centre of gravity of the person over the resting foot. If it were not for these muscles we should run a risk of falling down as we lifted one leg instead of balancing our selves with comfort upon that one which is resting upon the ground.

But we may now pass away from the muscles and nerves

FIG 9

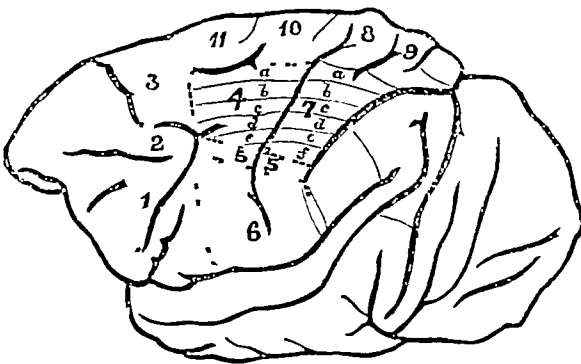


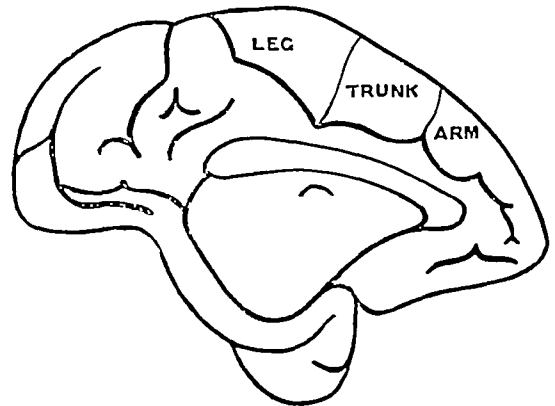
Diagram of the motor centres in the brain modified from those of Ferrier and Horsley. The motor centres have been numbered so as to represent the successive actions in seeing, taking and eating the apple &c. 1. Eye sees the fruit (eyes turn to opposite side). 2. Looks more eagerly at it (head and eyes turn). 3. Turns towards it (head to opposite side). 4. Puts forth her hand to take it (a movements of shoulder b of elbow c of wrist d of fingers). 5. Luxuriatingly shuts her eyes so as to enjoy the sweet morsel more thoroughly. 6. Eats the apple. 7. Picks out and throws away the refuse (d movements of fingers e of index f of thumb a b c as in 5). 8. 9. 10. 11. Went and got another for Adam (8 movements of hallux 9 of small toes, 10, of knee and ankle 11 of hip).

to the nervous centres from which they receive their stimulus to action, and whatever doubt may exist in regard to the adaptation of the muscles to the peripheral nerves and the action of plucking and eating the apple, I think there can be no doubt at all that such an arrangement exists in the motor centres of the brain. These centres were localised in the monkey by Ferrier, and it is the difficulty I have had in remembering their position that has led me to arrange them in accordance with some definite movements in a series of actions to which I have found they corresponded. If we start from the posterior part of the second frontal convolution pass upwards along it and then across to the ascending frontal convolution, follow this downwards parallel to the fissure of Rolando, and then turning the end of this fissure ascend again upwards along the parietal convolution which lies behind the fissure, we find (Fig 9) that the centres are arranged in the very order required for looking at the apple stretching out the hand to take it, bringing it to the mouth, separating the seeds and throwing them away. The aim and object of the whole series of actions is to eat the apple. And that the centres

for doing this are situated exactly where we should expect them—at the very end of the fissure of Rolando. In Ferrier's description we know that the movement which brings the hand to the mouth appears to be repeated on both sides of the fissure of Rolando but it appears that the part anterior to the former would bring the hand to the mouth with the apple, while the part situated behind the fissure of Rolando would throw the remnants of it away. And here comes in a very interesting point in order to complete the series of actions necessary for Eve to go and get another apple for Adam you require movements of the leg (Fig 10), and these are not fully represented on the surface of the brain. But they have been found by Horsley and Schäfer exactly in the place where, according to our idea, they ought to be, at the marginal convolution connecting the first and last centres of which we have just spoken and thus completing the circle of action.

Here I would like to draw your attention to the fact that great painters like great poets often appear to see more than ordinary mortals, and in his lovely picture, "The Fall of Man" which is painted on the walls of the Loggia of the Vatican in Rome, Raphael seems to have almost forestalled the results of physiological experiment. In the mental picture of the scene which most of us must have formed for ourselves it is probable that it did not occur to many of us to pay any attention whatever to the movements of the great toe, and yet in Horsley's diagram of the cortical centres that for the hallux comes forward most prominently, and, as you will see from Raphael's picture,¹ Eve's foot is raised, and

FIG 10



View of a lobe of the cerebrum from the longitudinal fissure after Horsley and Schäfer

the great toe both in her foot and that of Adam is brought into what one would think rather too violent action. In the action of plucking and eating the fruit there is no break between the eyes, head and arm, and that of the mouth and tongue, and in the usual process of eating the actions go on which are necessary simply to repeat the process of plucking and eating. Again, too, in the dog the arrangement is quite different (Fig 11), and yet it is exactly what one would expect from the different necessities of the animal. In the frugivorous animal the motions are pluck and eat, pluck and eat, but in the carnivorous animal a long chase after the prey is necessary before the animal can bring the jaws into action, and in the dog accordingly we find that the movements of mastication, instead of being arranged in linear series with those of the limbs, are represented at a spot which is somewhat removed from them. In the cortex the centres are so far apart as to be distinguishable from one another, but as the nerve fibres which pass downwards from them to the base of the brain become closely crowded together in the internal capsule localisation is more difficult (Fig 12), although Horsley and Beever have found generally that the arrangement of the fibres from before, backwards, corresponds to the arrangement of the centres just described. But as the nerves pass out from the spinal cord to reach the muscles they again become separated and as Ferrier and Leo have discovered, the motor roots which enter into the brachial plexus are arranged with a view to

¹ We publish with this lecture a coloured reproduction of Raphael's famous picture of the Fall of Man with a view of illustrating for our readers the various points referred to in this portion of the lecture.

definite coordinated movements. Now this plexus has been to me, and I think to many others, a perfect perplexity both in its anatomy and physiology. Yet if we take it from the same point of view as we have taken the motor centres it becomes comparatively simple. We must not forget that although the monkey is so much like man that we can draw most useful deductions regarding human physiology from experiments on these animals, we must not transfer without more ado the results of these experiments to man in their entirety. We must remember that man, although formerly a frugivorous and probably more or less arboreal animal, is now very different from a monkey, and experiments in the laboratory must be compared with and corrected by those experiments which disease makes upon man in producing local

FIG 11

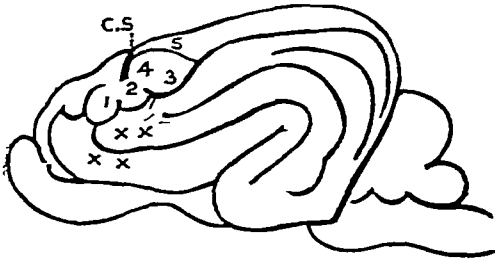


Diagram of brain of dog after Ferrier. C.S., Crucial sulcus. 1, Movements of eyes, as if to see freely. 2 and 3, Movements of fore-leg and 4 of hind leg as in running. 5, Movements of tail requisite in turning quickly as when a greyhound is following a hare when it doubles. x x x Movements of mouth and jaws.

ised palsies. I think it very probable that many here would find it difficult to answer the question, What are the movements which result in the monkey from stimulation of the fifth cervical nerve nor might he be able to remember them six months hence even if he learned to night that they consist in the shoulder and arm being raised upwards and backwards, the humerus rotated outwards, the forearm flexed and supinated, the wrist extended and the tips of the fingers flexed. But he would find it easy enough to remember them, not for six months only, but for the rest of his life, if he were told that they were simply those required to raise the hand in such a way as to grasp an apple hanging straight above him. If you go through these movements you will find that your

FIG 12

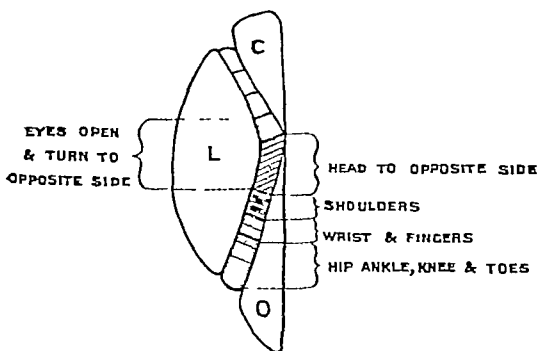


Diagram of the internal capsule

first impulse is to take a slight breath which is chiefly effected by the diaphragm, and on looking at the brachial plexus you find that the first branch which is given off from the fifth nerve is a filament to the phrenic (Fig 13). Then, just as you proceed to raise your shoulder, you take a still deeper breath, and this, too, is represented in the plexus by the posterior thoracic nerve, starting from the fifth and sixth nerves and going to the serratus magnus which has little power to raise the ribs and act as an inspiratory muscle while the shoulder is depressed, but will do so when the arm is raised. If your hand is hanging by your side you will find the shoulder slightly drawn backwards by the rhomboid and the arm rotated a little outwards by the infra spinatus, which is

supplied by the supra scapular nerve. Next you raise your arm and as you do so you will find that unconsciously you bend it and turn it out, you extend the wrist and flex the fingers. The raising of the arm and turning it out is effected by the deltoid and teres minor, which are innervated by the circumflex nerve, while the shoulder is still further raised by the trapezius which gets its nervous supply from a higher source—the spinal accessory. The biceps and other flexors of the arm receive their supply through the musculocutaneous nerve from the outer cord. In the movements of the wrist and fingers the fifth and sixth nerves appear to coöperate and those of the fingers are chiefly due to the sixth. The supinators and extensors of the wrist, fingers and thumb get their nerves from the musculo-spiral or its interosseous branch. To resume, the fifth and sixth cervical nerves raise the shoulder, flex the forearm and extend the wrist. The nervous energy passes from them along the upper trunk and outer cord of the brachial plexus to the flexors of the forearm, while the impulses to raise the shoulder, rotate the humerus and extend the wrist and fingers, travel chiefly through the posterior cord by the musculo-spiral nerve and its interosseous branch to the extensors of the wrist and digits. From the fifth and sixth cervical nerves we make a

FIG 13.

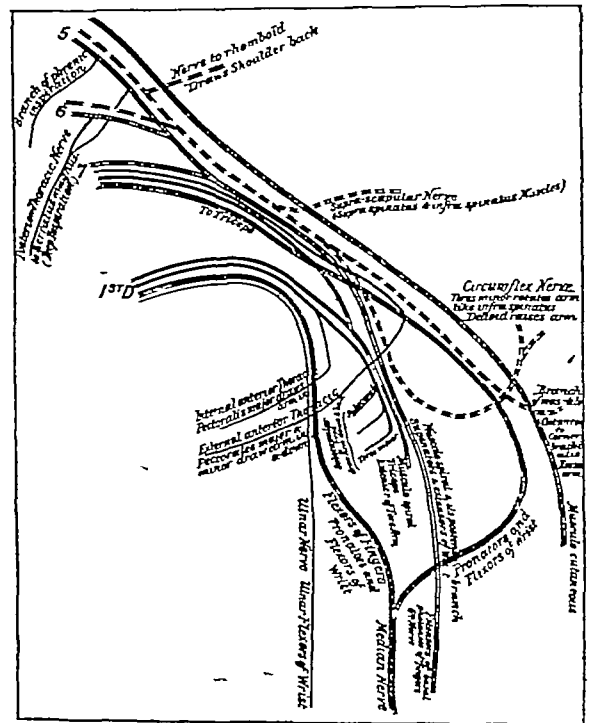


Diagram of the brachial plexus.

jump to the first dorsal, which has an exactly opposite action. The movements it produces are that the hand closes firmly upon the apple, the wrist is twisted round into the prone position and flexed to the ulnar side. The forearm is extended, and the upper arm is retracted in the manner required to pull the apple from the tree. In these movements if you put your hand upon your chest you will find that the pectoral muscles are largely engaged, and they receive their nerves partly from the internal cord of the brachial plexus. Flexion to the ulnar side is produced by the ulnar nerve, and the dragging of the arm down is effected by the subscapular, teres major and latissimus dorsi muscles, which are supplied by the subscapular nerves, and the triceps by which the arm is extended gets its nerve supply from the musculospiral. But these movements, especially if executed forcibly as they would be if the apple were firmly attached, would bring the hand below the level of the mouth, and the prone position would keep the apple away.

We must now go back to the sixth cervical nerve which we find will rectify this action for it raises the arm in and upwards with the forearm flexed so as to bring the hand to the mouth, supinated, and with the wrist and basal pha-

langes extended, so as to present the apple comfortably for eating. In effecting this movement the nervous impulses travel by the posterior thoracic circumflex, musculo cutaneous, musculo spiral and median nerves to the serratus magnus, deltoid, biceps, brachialis anticus, supinator longus and extensors of the wrist and basal phalanges. The position of Adam's left hand in Raphael's picture shows this action in its middle stage before it has carried the hand to the mouth. The four last phalanges of his fingers are flexed and we may suppose that the flexion is effected by means of the median nerve, but it is just possible that their flexion may be due to mechanical pulling on the tendons by the extension of the wrist and basal phalanges just as the hand is opened in the well known schoolboy trick by bending the wrist forcibly inwards, and thus mechanically stretching the extensor tendons of the fingers. In this picture the action of the serratus magnus muscle in drawing forward the shoulder and rotating the scapula so as to raise the shoulder is well seen and the action of the muscle appears almost exaggerated. We have already found that it gets a branch from the fifth nerve as well as from the sixth. We may fairly suppose that the branch from the fifth is the channel for the impulses which cause the muscles to act as an inspiratory muscle when raising the arm to pluck the apple, while that from the sixth serves to excite the muscle to pull the shoulder forward. Now, here we have got apparently the movements required for plucking the apple and conveying it to the mouth and yet we have got two nerves which seem superfluous—the seventh and eighth cervical. We may suppose the seventh to be brought into play later on, when the first pair recognised their nakedness, for its action in the monkey is to bring the hand over the pubis in the position of Eve's, as represented by Raphael in the expulsion from Paradise (Fig 14). We cannot in this scheme find the place for the eighth nerve in the entirety of its action, as observed in monkeys, but the first part of the movement which it produces may be used in throwing away the refuse of food.

FIG 14



Expulsion from Paradise, after Raphael. The position of Eve's right hand shows the action of the seventh cervical nerve

The mere fact that I have been unable to work this last nerve properly into this scheme shows you how imperfect it is, yet I trust that as an attempt to hang together the facts anatomical and physiological, it may not be without service as an aid to your memories, and still more as an inducement to you to find out the true relationships of the different parts of the body, such as those of the lumbar plexus and the anastomoses of the vagus and sympathetic. But you will say to me that, although anatomy is doubtless hard, *materia medica* is to some people even harder, and the dry details less interesting to many a student even than those of anatomy, while they have not the merit of possible utility to recommend them. You may ask me if I cannot show you some way of easing the burden of *materia medica*. With such a request I deeply sympathise, and if I had my way I should sweep away the whole subject of *materia medica* as understood in some places, although not, as I believe, understood here and replace it by pharmacology, therapeutics and practical pharmacy. Therapeutics, the cure

of disease, is the aim and object of medicine, except in so far as prevention is concerned. A patient comes to you for relief of his discomfort or pain, for restoration of his health or prolongation of his life, and it matters but little to him whether you can describe the microscopic appearances of his various organs, if you cannot afford him any help. But it is little or no use to know the mere names of the plants whence drugs are derived, more especially as these names vary from one Pharmacopœia to another, while the plant remains the same and the change of name in the Pharmacopœia does not alter its action in the least. It is useful for the druggist to recognise a medicinal plant, though it is but little use for the physician. But it is of great importance that you should be free from the reproach of 'pouring in drugs of which you know little into bodies of which you know less', that you should thoroughly know pharmacology and have a clear understanding of what your drugs will do, so that you may know precisely what to give and when to give it, when to increase your dose and when to withhold your medicine entirely. Pharmacology and rational therapeutics are inseparable and without the former the latter is impossible. It is also very important that you should know how to prescribe efficiently, and this can only be learned in a practical course, in which one can become acquainted with the qualities and interaction of drugs in such a way that when they are mixed they will not form disgusting, inert or dangerous compounds. It is clear that this part of the subject is closely connected with chemistry and botany and as a subject of examination should come as close after them as possible, while it is obvious that the action on the healthy body or pharmacology and that upon the diseased body or therapeutics can only be understood after one has learned the functions of the body in health and their modification in disease. But even were the whole of the *materia medica* (understanding by this term the origin and physical characters of drugs) swept away the subject of pharmacology has grown so large that it is exceedingly hard for a man to remember the actions even of the most important drugs, and the only way of rendering it possible is to have them grouped together, so that one description will do for many drugs which vary from each other only in a slight degree.

Attempts at such a classification have been made by Buchheim and his scholars and before very long, I think, it is very likely that the arrangement will be much simplified. Drugs after all, are things which act upon the organs of the body and upon the substances which compose those organs. What these components are we may see readily from a glance at the food required to renew them as they waste away, and a typical meal consists of a beefsteak with fat or butter, bread or potato, salt and water. The albumen of the beefsteak would chiefly be represented in the muscles and glands, while fat is found largely in the brain or nerves, and carbonates salt and water occur everywhere throughout the body. In classifying drugs we find that some of them act more particularly upon the albuminous and others upon the fatty principles of the body, while others affect both. With such a division we may group each of the drugs that act upon our muscles and those that affect the nervous system, afterwards subdividing them according to the particular kind of action that they exert and the principal parts of the muscular, nervous or glandular systems which are chiefly acted upon. Thus, as Professor Harnack has pointed out, nearly all drugs which act as emetics have likewise the power of paralysing muscles when locally applied, and, as I indicated about two years ago, the whole class of cardiac tonics which cause contraction of the frog's heart, with stoppage in systole, are also more or less local anaesthetics. One group, containing physostigmine, muscarine and pilocarpine, stimulates secretion and causes contraction of involuntary muscular fibre, while another, containing atropine, hyoscyamine and hyosine have exactly the contrary action. In this group the action upon the nerves, the glands and involuntary muscular fibre is well marked. In the lowest of the group, atropine, there is little hypnotic power, in hyosine this power is greatly developed, and in so far as we get the connexion with another group—viz., that of morphine. Morphine is almost a pure hypnotic, but if we take the alkaloids of opium, we shall find they form a series in which the hypnotic power becomes less and less, while the tetanising power becomes greater and greater, until at last in thebaine we have a substance which acts almost like strychnine. In cannabis indica we have the same thing, though to a less extent, for cannabine is hypnotic and cannabi tetanin is

strongly convulsive. It seems very strange that you should not only get such well marked diversity of action in the alkaloids of the same plant, but should sometimes, as in jaborandi, find that two alkaloids, pilocarpine and jaborine, are almost completely antagonistic. This curious condition has been rendered much more intelligible by the admirable researches of two former presidents of this Society (Professors Crum Brown and Fraser) whose work has also afforded a basis for a rational knowledge of the relationship between chemical structure and physiological action. They showed that methylating strychnine converted it from a convulsing into a paralyzing poison.

But there is another very strange point to be considered—viz., that many, if not all, drugs have an entirely different action in small doses from what they have in larger ones. This and the tolerance of drugs are exceedingly difficult to understand. The extent to which tolerance is earned is sometimes incredible. Although the subcutaneous injection of a grain of morphine would be certainly very dangerous, if not fatal, to any one of us, yet I have seen a case in which the daily dose of morphine injected subcutaneously varied from twenty-five to thirty-two grains. Now I cannot explain this—I can only throw out as a suggestion that the explanation is to be found by considering the action of the drug upon individual cells. I need not here discuss the nature of the cell. This has been done very much better than I could possibly do it by Sir William Turner. But I would remind you that both aniline colours and drugs have a tendency to fix upon one part of a cell rather than another. In addition to this selective action it is evident that they will come in contact with the surface of the cell sooner than with its interior, and if they be supplied to the tissues in a small quantity they may affect the surface of the cell only. One of the best examples of tolerance that I know is that of a salmon coming from the sea into fresh water or from fresh water into the sea. The cells of its gills become gradually inured to the presence or absence of salt during the passage of the fish through the brackish water. You can readily see that at first only the external part of the cell would be affected by the salt and the sudden application of a strong solution might destroy the balance between the outer and inner parts of the cell and thus destroy its life. But by and by the whole cell would participate and the amount of the salt could be gradually increased to a great extent without greatly disturbing the balance between the interior and exterior of the cell. In the same way a small quantity of morphine coming in contact with the external part of the brain cell only, might greatly modify its function, while if the cell was, as it were, thoroughly soaked in the poison an enormous quantity of morphine would not make such a difference between the interior and exterior of the poisoned cell as a small quantity would do in the case of the unpoisoned one. Such a subject as immunity from poison is excessively interesting more especially as now we are beginning to see that immunity from disease may in some cases at least depend on the power of the organism to resist the poisons formed by microbes. But I have already trespassed too long upon your time, and I must conclude. You may possibly think from what I said at the beginning of this paper that I wish to abolish examinations. I do not, because I look upon them as a necessary evil, but I should wish greatly to modify them and to render them more a test of a man's capacity for applying his knowledge than of his simple memory for facts. When I was in India three years ago I was told of a native medical student who had been brought before his examiners for copying. He denied the charge, but the examiners said, "How is it possible that you could reproduce page after page of a text book verbatim unless you had copied?" The student replied, "I will do it again if you will give me pen, ink and paper" and he did so in the presence of the examiners. Yet although he reproduced the text book verbatim the knowledge that such men as he have is generally useless, they could not put it into practice, and although they may write down a whole treatise on surgery, they will sometimes stand helpless when called upon to do a simple operation. It is just a little over thirty years ago that I attended Professor P. G. Tait's course of Natural Philosophy, and his examinations seemed to me to be perfect models of what examinations ought to be. As an example I may give one of his questions. Suppose a tumbler filled with water with a cork fastened to the bottom inside were equipoised on a balance would the scale containing the tumbler fall or rise if the string were cut and the cork allowed to come to the top of the water? The answer given by some was that the tumbler

would be heavier, because the cork would no longer be trying to get to the top of the water, and thus pulling up the tumbler. For this Professor Tait gave nothing. Others, of whom I was one, said there would be no change, because nothing had been added to or taken from the tumbler. This answer was allowed full marks, but not a man in the class gave the complete answer, which was that the tumbler would be heavier, because if the string was cut, the space at the bottom of the tumbler would be filled with dense water instead of light cork, and thus the greater mass being nearer the centre of the earth, would be multiplied by the greater attraction while the lesser mass of the cork would be multiplied by the lesser attraction. Now, demand creates supply, and the questions set by an examiner tend to raise the standard of knowledge in the student, but supply may also create demand, and just as an article previously unknown when presented to the public may take readily, so knowledge possessed by a student may lead to the improvement of examinations. At present it would be hopeless for an examiner to put such a question as this to a medical student: "Describe the relationship between atropine, morphine and strychnine, mention the chemical changes required to convert a convulsing into a narcotic poison and *vice versa*, and tell from the chemical structure of an alkaloid, of which the structural formula is given, what its physiological action must necessarily be." And yet such a question as this will, I have little doubt be perfectly fair some years hence. At present it would be absolutely useless to put it, because one could not get an answer to it. You will not find an answer in any text-book and very probably you will not find a single man living who can answer it thoroughly, but it is just for such a Society as this, composed as it is of men of keen and active brains with overflowing energy, ever ready to propound a theory of their own or demolish one proposed by others, and willing to do experimental work for either the one or the other purpose—it is for such a Society as this and for such men to provide that knowledge which shall make such questions possible, and when they are possible we may hope that the time is not far distant when medicine will no longer be an art, but will become a science.

Clinical Lecture

STERNO-MASTOID TORTICOLLIS

Delivered in the Theatre of St Thomas's Hospital on
Dec 8th, 1892,

By WILLIAM ANDERSON, F.R.C.S. ENG

THE names torticollis, caput obstipum¹ and wryneck, like many others in surgery, merely express a symptom without suggesting anything as to the pathological nature of the condition designated. In their wider signification as a rotatory distortion of the neck they may indicate a merely temporary malposition of spasmodic or rheumatic origin, or secondary to certain defects of the muscular apparatus of the eye, or to inflammatory and other tumours in the neck, or a permanent affection due to disease of the vertebral column or cicatrization after injuries attended by loss of substance in the integumentary structures, but the terms when unqualified usually imply a special contraction arising from a defect in the sterno-mastoid or much more rarely, in other muscles of the neck. It is to the sterno-mastoid torticollis that this lecture is devoted.

The familiar form of wryneck is well illustrated by the patient upon whom I operated a few days since, and a recapitulation of the details of this case will serve as an account of a typical example. The patient was a girl aged seventeen, of healthy aspect but of small physique. The deformity had existed from birth, but there was no history of any difficulty in connexion with delivery or of a sterno-mastoid tumour observable afterwards. The neck was flexed and lateralised towards the right side, the face looking directly

¹ *Davus sili comicus atque
Stes capite obstipus*—Horace, Sat. li. v

forwards and rotating easily towards the left, but could not be turned in the opposite direction. The right sterno-mastoid was sharply defined especially during the movements of the neck, and its muscular belly appeared to be smaller as well as shorter than that of the opposite side. The right shoulder was slightly raised. On looking at her face from the front there was a marked asymmetry, the right eye being about a third of an inch below the level of its fellow, and the whole of the right side of the cranium and face smaller than the left. The spine showed a slight but distinct double curvature with a concavity in the cervical and upper dorsal region turned towards the affected side, and a compensating dorso-lumbar flexure in the opposite direction below. There was no alteration of the visual axes and none of the dysphagia occasionally noted in severe cases.

Here the diagnosis of a congenital or infantile sterno-mastoid torticollis was very easy. The permanency of the distortion and the presence of cranial asymmetry proved that it was not a spasmodic condition. The splenius, scaleni, trapezius, platysma and other muscles which are occasionally the seat of changes leading to a torticollis appeared to be normal, and there was no reason to believe that any other muscle besides the sterno-mastoid was implicated farther than by the small but inevitable adaptive changes that occur in connexion with long continued malposition of the parts. Finally, there was no tumour on the neck and the cervical vertebrae were not diseased. To contrast with this case I may mention a patient who presented herself here a short time ago and who may have been seen by some now present. This was a young girl aged sixteen, who complained of a torticollis of six months' duration. Her left sterno-mastoid was in a state of strong contraction, producing a deformity very similar to that just described, but there was no facial or cranial asymmetry, and on examining the neck more closely the trapezius of the same side was found to be also contracted. We had here to deal with a condition of spasm propagated to the muscles through the spinal accessory nerve, and on administering an anæsthetic the deformity immediately disappeared.

The characters of sterno-mastoid torticollis are sufficiently pronounced to fix the attention of even an unscientific observer, and there can be no doubt that the affection is not a modern one, but curiously enough it is not described by any of the ancient writers, although it must have been quite familiar to them. The first reference to it, so far as I have been able to ascertain, was in the works of the Dutch physician Tulp (whose features have been immortalised in Rembrandt's "Lesson in Anatomy"). He mentions an example of the deformity and its cure by a surgeon of whom nothing remains except the Latinised version of his name—Minnius, and it is interesting to hear that Minnius had gained a reputation for treatment of such cases, as this makes it probable that there were in those and older days surgical specialists for the cure of wryneck, just as there were specialists for hernia, stone and many other conditions with which orthodox surgery was often afraid to meddle. Cases were also quoted by Tulp's pupil Meekren and by his friend Roonhuijze, but it was not until the last century that the complaint became an item in the surgical text-book, and even Samuel Sharp, writing about 1740, did not consider that congenital wryneck ought to be treated by the knife. It was in fact only with the great French surgeon Dupuytren that the serious consideration of the surgery of the disease began.

At the present day we know a good deal about torticollis, but there is still a great deal that we have to learn. We have a mass of experience as to the phenomena and treatment of the affection, but its pathology is still involved in obscurity and disputation. It is known that the characteristic deformity is seen at birth or very shortly afterwards, though there is still a lack of precise observation on this point, and there can be no doubt that in a considerable proportion of cases the condition has arisen during intra uterine life. It is more common in girls than in boys, three or four times more frequent on the right side than on the left, and is almost invariably single. There have been four theories of causation framed to account for it, three dealing chiefly with cases of truly congenital wryneck and one touching only upon those in which the foundation is laid by an accident of parturition. One view attributes it to a simple arrest of development in the face and neck. A second traces it to a disease of the nerve centres affecting the side of the neck secondarily, but as the nature of the disease has not been explained the hypothesis is at least a very incomplete one. A third, and perhaps the oldest,

view regards the shortening of the muscle as the result of a vicious position of the head of the foetus *in utero*. A similar hypothesis has been offered in the case of club-foot and other deformities, but it appears very unsatisfactory, for if the mere attitude of a part during intra uterine life could determine a permanent shortening of the muscles relaxed by the posture scarcely a joint in the body would be free from distortion at birth. A fourth explanation, advanced by Stromeyer, assigns as the essential cause a laceration of the muscle during parturition, an accident that is said to be particularly liable to occur—although we do not know in what proportion of cases—in breech and foot presentation, in which the parts about the neck are subjected to a good deal of stretching in the course of delivery. This theory is very plausible, but the evidence connecting the two conditions is still far from complete. The out-patient room has afforded us many examples of the so called congenital tumours of the sterno-mastoid, which were formerly supposed to be of syphilitic origin, but are now, and probably with justice, believed to be due to an effusion of blood in the sheath of the muscle and consequent upon a rupture of some portion of the muscular belly. Given such an accident, a permanent defect of the muscle appears very probable, but few, if any, of these cases have actually been traced on to a sequent deformity, and Jannet and Petersen have brought forward arguments to show that such an injury never leads to wryneck. Moreover the investigation of the history of a case of torticollis seldom if ever eluces any clear account of an antecedent sterno-mastoid tumour. At present we can only believe that a very small proportion of the examples are due to this accident.

A few words may be said as to the comparatively rare cases of acquired sterno-mastoid torticollis. Syphilitic myositis undoubtedly explains a few. Tumour of the muscle may in like manner cause more or less distortion of the neck, as in the case of spindle-celled sarcoma that recently left the hospital. There the entire muscle was excised with the growth and the wryneck disappeared, and it is worthy of note that the unbalanced action of the opposite muscle has not set up any deformity. Traumatic injuries to the muscle may in like manner induce torticollis, but the cases are very rare.

The treatment of sterno-mastoid torticollis is conducted upon principles similar to those which guide us in dealing with other myopathic deformities. In the slighter cases, if observed sufficiently early, a cure may often be effected without operation by persevering manipulation of the head aided by the use of a suitable apparatus, but the majority of examples brought under the notice of the surgeon require the section of the affected muscle or its tendon.

The earliest operation on record—that of Minnius in the case reported by Tulp—consisted of division of the muscular fibres of the sterno-mastoid by an open wound, the section being very carefully performed, we are told, in order to avoid injury to the carotid artery and jugular vein. The section of the muscular belly has been revived in recent years and many surgeons have spoken very highly of the results. I have performed it only on one occasion, and although the experiment was perfectly successful and the immediate effect was decidedly greater than after section of the tendon I have not cared to repeat it. The almost immediate relaxation of the carotid sheath to the deep surface of the muscle increases the danger and difficulty of the operation, a scar is left in an exposed situation and the portion of the muscle below the line of section will in all probability undergo atrophy in consequence of the section of its nerve. If this plan be set aside only one other seat of operation remains, the tendons of origin, because the division of the muscle near the base of the skull, although possible and not dangerous, would involve a large wound and would offer no compensating advantages.

The section of the tendons of origin was performed in the seventeenth century by Flurianus, a Dutch surgeon (whose name, like that of Minnius, exists only in its Latin form), the instrument used being a sharp pair of scissors, and Samuel Sharp in the last century described an open operation for the same purpose, but as he regarded it as unsuitable for long-standing or congenital cases it was little used. It is probable, indeed, that most cases of wryneck were either treated with apparatus or neglected altogether, until the example of Dupuytren and the powerful advocacy of Dieffenbach and Stromeyer led to the subcutaneous method, which thenceforth held its ground unchallenged until antiseptic surgery brought the original plan again to the front.

In the milder cases of wryneck the sternal head alone requires division, and for this there can be no doubt that the

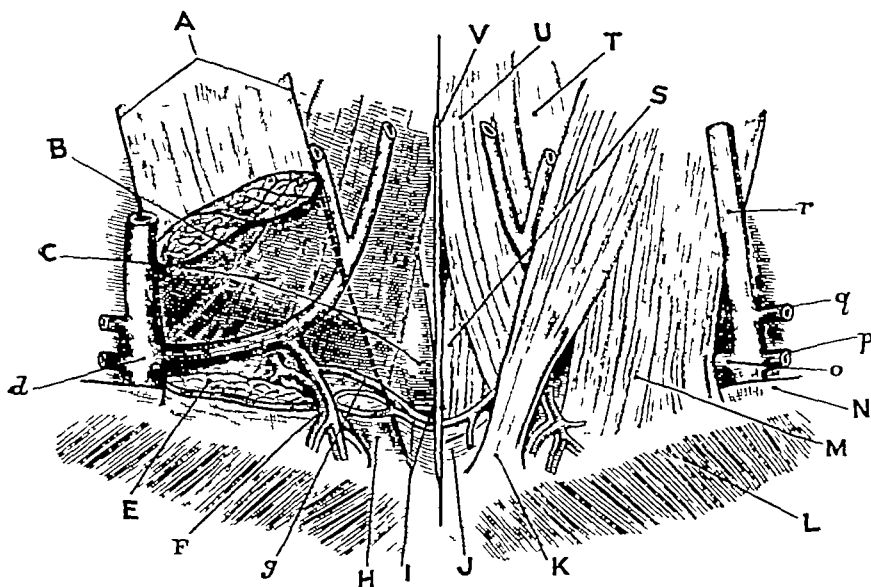
subcutaneous operation is advised by Dupuytren is the best. It leaves only a minute scar, and if it be recollected that this portion of the tendon is attached to the front of the sternum well below the upper border of the bone and that it is isolated by a complete fascial sheath it will be seen that its division is both safe and easy. An open wound here could give no advantage.

When the clavicular head is also involved the question of operation becomes more complicated. It will be remembered that this tendon arises from the upper border of the inner third of the clavicle, while the muscular fibres connected with it are divided into two separate bundles, one passing to the mastoid process (cleido-mastoid), the other to the occipital bone (cleido-occipitalis). Immediately behind it is a well marked cellular interspace containing some fat and connective tissue, with the anterior jugular vein passing to its termination in the external jugular trunk and a small branch of artery, usually from the supra scapular, which eventually pierces the interval between the two heads of the muscle and supplies integumental structures. The posterior boundary of the space is formed by a sheet of fascia enclosing the sterno-hyoid and omo-hyoid and filling up the triangle formed

was liable to infection. Antiseptic surgery has now however, placed it upon a different footing, and many surgeons, including Volkmann, Heinecke and Billroth, have given it their preference because it allows the immediate division of the fascial tissues which resist extension. The original operation of Samuel Sharp required a transverse incision through the skin of a size somewhat more extensive than the breadth of the muscle and about one-third of its length from the clavicle, a probed razor was then passed underneath the muscle and drawn outwards through the whole tendon, finally the wound was filled with dry lint to prevent the ends of the muscle from growing together. This procedure was amended by Benjamin Bell, who divided the tendon from without inwards, and it is his plan that is most favoured at the present day, the principal difference between the modern and ancient methods being the employment of antiseptic precautions.

The subcutaneous operation is usually practised by making a puncture at the inner or outer border of the clavicular head and introducing a blunt-pointed tenotome, the edge of which is turned outwards towards the skin. The section is then made in

THE ORIGIN OF THE STERNO-MASTOID WITH THE RELATIONS OF ITS TENDONS



RIGHT SIDE OF NECK.—A, Sterno-mastoid (cut). B Omo-hyoid. C Fascia investing the sterno-hyoid and omo-hyoid and filling up angular interval between them. E Clavicular head of sterno-mastoid with fascia. F Perforating branch of the supra scapular artery. d External jugular vein receiving anterior jugular and external tributaries. g Supra sternal vein running between layers of the sterno-mastoid fascia.

LEFT SIDE OF NECK.—I, Pectoralis major. K, M, Head of sterno-mastoid. N Clavicle. S Sterno-hyoid. T Omo-hyoid. U Sterno-hyoid. o Anterior jugular vein. p, Supra scapular vein. q Transversalis colli vein. r External jugular vein.

between these two muscles and the clavicle, to which the fascia is attached below. There is thus a kind of wall separating the seat of operation from the deep cervical and mediastinal spaces and from the great vessels and nerves of the neck, the inner portion of this being both muscular and fascial, while the outer part is composed of fascia only. At the outer border of the tendon is the external jugular vein, receiving the anterior jugular on the inner side and the transversalis lumen and transversalis coli veins on the outer side before piercing the deep fascial wall to enter the sub-clavian vein. From this it will be seen that the danger of wounding the large vessels at the root of the neck is very small, but both the anterior and external jugular are exposed to injury, and it is quite possible that the bleeding from either might be alarming. The small artery would probably give little trouble.

In dealing with the clavicular head the surgeon has the choice of two plans of operation by the open method and by subcutaneous section. The open method has the claim of antiquity, but there is no doubt that it was rightly abandoned in favour of its younger rival so long as the wound

the usual manner with a careful sawing motion, the finger being laid lightly on the skin opposite the point of operation. The sensation of yielding is very obvious and when the last fibres are cut a distinct separation of the parts is at once apparent. The amount of gain, however, is often rather disappointing because the fascial and other structures behind the muscle have undergone adaptive changes which enable them for a time to offer more or less resistance to extension, but these tissues do not offer any permanent opposition and the cure may always be safely completed by judicious after treatment. The internal puncture is believed to be safer than the external, as the anterior and external jugular veins are more out of harm's way than when the knife is introduced at the outer border of the muscle between the external jugular vein and the tendon. I have, however, adopted a modification of the latter plan, making a vertical incision of about half an inch in length over the outer border and dissecting down until the shining fibres of the tendon are exposed. The blunt-pointed knife may then be passed close to the deep surface of the tendon, preceded or not by a director, and the risk of wounding either of the veins is thus reduced to a minimum.

forwards and rotating easily towards the left, but could not be turned in the opposite direction. The right sterno-mastoid was sharply defined, especially during the movements of the neck, and its muscular belly appeared to be smaller as well as shorter than that of the opposite side. The right shoulder was slightly raised. On looking at her face from the front there was a marked asymmetry, the right eye being about a third of an inch below the level of its fellow, and the whole of the right side of the cranium and face smaller than the left. The spine showed a slight but distinct double curvature with a concavity in the cervical and upper dorsal region turned towards the affected side, and a compensating dorso-lumbar flexure in the opposite direction below. There was no alteration of the visual axes and none of the dysphagia occasionally noted in severe cases.

Here the diagnosis of a congenital or infantile sterno-mastoid torticollis was very easy. The permanency of the distortion and the presence of cranial asymmetry proved that it was not a spasmodic condition. The splenius, scaleni, trapezius, platysma and other muscles which are occasionally the seat of changes leading to a torticollis appeared to be normal, and there was no reason to believe that any other muscle besides the sterno mastoid was implicated farther than by the small but inevitable adaptive changes that occur in connexion with long continued malposition of the parts. Finally, there was no tumour on the neck and the cervical vertebrae were not diseased. To contrast with this case I may mention a patient who presented herself here a short time ago and who may have been seen by some now present. This was a young girl aged sixteen, who complained of a torticollis of six months' duration. Her left sterno-mastoid was in a state of strong contraction, producing a deformity very similar to that just described, but there was no facial or cranial asymmetry, and on examining the neck more closely the trapezius of the same side was found to be also contracted. We had here to deal with a condition of spasm propagated to the muscles through the spinal accessory nerve, and on administering an anæsthetic the deformity immediately disappeared.

The characters of sterno mastoid torticollis are sufficiently pronounced to fix the attention of even an unscientific observer, and there can be no doubt that the affection is not a modern one, but curiously enough it is not described by any of the ancient writers, although it must have been quite familiar to them. The first reference to it, so far as I have been able to ascertain, was in the works of the Dutch physician Tulp (whose features have been immortalised in Rembrandt's "Lesson in Anatomy"). He mentions an example of the deformity and its cure by a surgeon of whom nothing remains except the Latinised version of his name—Minnius, and it is interesting to hear that Minnius had gained a reputation for treatment of such cases, as this makes it probable that there were in those and older days surgical specialists for the cure of wryneck, just as there were specialists for hernia, stone and many other conditions with which orthodox surgery was often afraid to meddle. Cases were also quoted by Tulp's pupil Meekren and by his friend Roonbuijze, but it was not until the last century that the complaint became an item in the surgical text-book, and even Samuel Sharp, writing about 1740, did not consider that congenital wryneck ought to be treated by the knife. It was in fact only with the great French surgeon Dupuytren that the serious consideration of the surgery of the disease began.

At the present day we know a good deal about torticollis, but there is still a great deal that we have to learn. We have a mass of experience as to the phenomena and treatment of the affection, but its pathology is still involved in obscurity and disputation. It is known that the characteristic deformity is seen at birth or very shortly afterwards, though there is still a lack of precise observation on this point, and there can be no doubt that in a considerable proportion of cases the condition has arisen during intra uterine life. It is more common in girls than in boys, three or four times more frequent on the right side than on the left, and is almost invariably single. There have been four theories of causation framed to account for it, three dealing chiefly with cases of truly congenital wry neck and one touching only upon those in which the foundation is laid by an accident of parturition. One view attributes it to a simple arrest of development in the face and neck. A second traces it to a disease of the nerve centres affecting the side of the neck secondarily, but as the nature of the disease has not been explained the hypothesis is at least a very incomplete one. A third, and perhaps the oldest,

view regards the shortening of the muscle as the result of a vicious position of the head of the fœtus *in utero*. A similar hypothesis has been offered in the case of club-foot and other deformities, but it appears very unsatisfactory, for if the mere attitude of a part during intra uterine life could determine a permanent shortening of the muscles relaxed by the posture scarcely a joint in the body would be free from distortion at birth. A fourth explanation, advanced by Stromeyer, assigns as the essential cause a laceration of the muscle during parturition, an accident that is said to be particularly liable to occur—although we do not know in what proportion of cases—in breech and foot presentations, in which the parts about the neck are subjected to a good deal of stretching in the course of delivery. This theory is very plausible, but the evidence connecting the two conditions is still far from complete. The out-patient room has afforded us many examples of the so called congenital tumours of the sterno-mastoid, which were formerly supposed to be of syphilitic origin, but are now, and probably with justice, believed to be due to an effusion of blood in the sheath of the muscle and consequent upon a rupture of some portion of the muscular belly. Given such an accident, a permanent defect of the muscle appears very probable, but few, if any, of these cases have actually been traced on to a sequent deformity, and Jeannel and Petersen have brought forward arguments to show that such an injury never leads to wryneck. Moreover the investigation of the history of a case of torticollis seldom if ever reduces any clear account of an antecedent sterno mastoid tumour. At present we can only believe that a very small proportion of the examples are due to this accident.

A few words may be said as to the comparatively rare cases of acquired sterno mastoid torticollis. Syphilitic myositis undoubtedly explains a few. Tumour of the muscle may in like manner cause more or less distortion of the neck, as in the case of spindle celled sarcoma that recently left the hospital. There the entire muscle was excised with the growth and the wryneck disappeared, and it is worthy of note that the unbalanced action of the opposite muscle has not set up any deformity. Traumatic injuries to the muscle may in like manner induce torticollis, but the cases are very rare.

The treatment of sterno-mastoid torticollis is conducted upon principles similar to those which guide us in dealing with other myopathic deformities. In the slighter cases, if observed sufficiently early, a cure may often be effected without operation by persevering manipulation of the head aided by the use of a suitable apparatus, but the majority of examples brought under the notice of the surgeon require the section of the affected muscle or its tendon.

The earliest operation on record—that of Minnius in the case reported by Tulp—consisted of division of the muscular fibres of the sterno mastoid by an open wound, the section being very carefully performed, we are told, in order to avoid injury to the carotid artery and jugular vein. The section of the muscular belly has been revived in recent years and many surgeons have spoken very highly of the results. I have performed it only on one occasion, and although the experiment was perfectly successful and the immediate effect was decidedly greater than after section of the tendon I have not cared to repeat it. The almost immediate relaxation of the carotid sheath to the deep surface of the muscle increases the danger and difficulty of the operation, a scar is left in an exposed situation and the portion of the muscle below the line of section will in all probability undergo atrophy in consequence of the section of its nerve. If this plan be set aside only one other seat of operation remains, the tendons of origin because the division of the muscle near the base of the skull, although possible and not dangerous, would involve a large wound and would offer no compensating advantages.

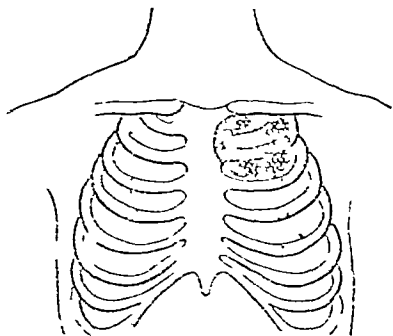
The section of the tendons of origin was performed in the seventeenth century by Flurianus, a Dutch surgeon (whose name, like that of Minnius exists only in its Latin form), the instrument used being a sharp pair of scissors, and Samuel Sharp in the last century described an open operation for the same purpose, but as he regarded it as unsuitable for long-standing or congenital cases it was little used. It is probable, indeed, that most cases of wryneck were either treated with apparatus or neglected altogether, until the example of Dupuytren and the powerful advocacy of Dieffenbach and Stromeyer led to the subcutaneous method, which thenceforth held its ground unchallenged until antiseptic surgery brought the original plan again to the front.

In the milder cases of wryneck the sternal head alone requires division, and for this there can be no doubt that the

dull on percussion, but elsewhere it was normal. There was no displacement of the apex beat or any evidence of hypertrophy or dilatation of the heart, the sounds of which were normal. Over the tumour (or pulsating prominence) there was a loud and harsh systolic murmur which was audible in front and also opposite the fourth and fifth dorsal spines behind. The diastolic shock was both audible and perceptible in front. On auscultation the breath sounds were normal over the right chest, but on the left side they were faint and somewhat tubular in character, and at the apex moist sounds were audible behind. (Fig 3) There were no other symptoms or indications of any importance. The patient remained in hospital from Sept 27th 1890, until his death on Jan. 18th following.

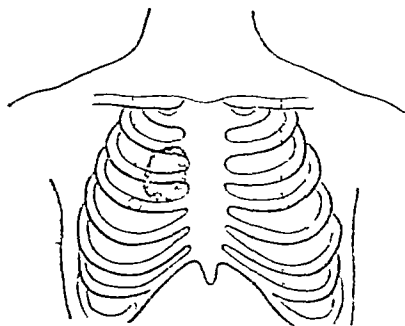
Treatment—The demand which the restriction of food, particularly of the fluid part of it, would make on the patient's

FIG 2.



fortitude was clearly explained to him and he expressed his willingness to submit to it. It was accordingly commenced on Oct. 7th, 1890 ten days after the patient's admission to hospital, the fluid part of his diet being then reduced to twelve ounces and the solid part to sixteen ounces. Ten grains of iodide of potassium in water, three times daily, were begun on the same day. Strict rest in bed, it is needless to add, was an essential point. The action of the bowels was aided, when necessary by the use of laxatives. Occasionally, when restless or sleepless bromide of potassium was added to the iodide mixture. On the 20th the amount of fluid was reduced to ten ounces and on the 24th to nine ounces which consisted of two ounces of claret, two ounces of water and five ounces of tea. On the 29th the patient expressed himself as much better and as not feeling reduced or weakened

FIG 3



by the restricted diet. The pulsating swelling beneath the clavicle was perceptibly smaller and no bruit was audible over any part of it. The diastolic shock had also disappeared. On Nov. 7th the patient was weaker and the juice expressed from four ounces of raw meat was added to his diet. No trace of the left radial pulse could be felt on the 17th and the impulse of the aneurysm was much less. A further addition some beef tea was made to the diet on the 27th. On Dec. 16th there was no tension in the right radial pulse and the left was still absent. The potassium iodide was omitted and a mixture containing per-chloride of iron, hydrochloric acid and tincture of calumba was substituted for it. The diet was now increased by the addition of bacon, fish, eggs and chops. From this date the

condition of the aneurysm continued to be in every way satisfactory, but the patient gradually grew weaker and he eventually died on Jan 18th, 1891. At the post mortem examination made by Mr Francis Croucher a tumour larger than a man's fist was found below the clavicle and behind the three first ribs and upper part of the sternum. The heart's substance was pale, no valvular lesion, much atheromatous degeneration in the aorta. Just above the aortic valves there was an aneurysmal dilatation about the size of a hen's egg and at the juncture of the ascending and transverse portions of the aorta a tumour commenced which involved the whole of the transverse and the first part of the descending portions of the arch. It was a large sacculated aneurysm containing a firm coagulum which almost entirely filled the sac. The inner surfaces of the manubrium, clavicle and first and second ribs were eroded. In the upper lobe of the left lung and just behind the aneurysm a large abscess cavity was found which contained fetid pus. There was no cavity in the right lung, but it was tuberculous in the upper lobe. The spleen was much enlarged and it also contained an abscess cavity full of blood stained pus.

Remarks—In this case phthisis was the cause of death. That disease was not diagnosed during life. The patient had very little expectoration, his cough was of the brassy character indicative of pressure on the trachea, and it became much less troublesome as the aneurysm reduced in size. The dulness of the upper lobe of the left lung was attributed to the presence of the aneurysmal sac, by which and its loud bruit the physical signs of the cavity that existed were completely masked. It is remarkable that so large an aneurysm, thus situated, gave rise to so few pressure signs.

CASE 2.—A man aged forty two was admitted to the Seamen's Hospital on March 21st 1892, and discharged on Oct 21st following. He stated that for twelve months he had suffered from pain in the right side of his chest and under the right scapula. He had a dry metallic cough and was subject to severe attacks of dyspnoea. There were no abnormal signs over the lungs, the heart's apex beat was in the sixth space in the nipple line, the impulse was heaving, the first sound was booming and there was no murmur. In the second and third intercostal spaces close to the right border of the sternum a pulsating prominence was seen and felt, over which a harsh and loud systolic bruit was audible and the diastolic shock was plainly perceptible. With the exception of his dry, harsh cough, pain and pulsation there were no pressure signs. The treatment was essentially the same as in Case 1 and need be only briefly recapitulated. On March 27th the amount of fluid was reduced to a pint, strict rest in bed was enjoined and potassium iodide in ten grain doses given thrice daily. On the 31st the dose of the iodide was increased to twelve grains and a half. On April 22nd the pulse was considerably reduced both in volume and tension, there was but little pain and the pulsation over the aneurysm was much less. The dose of the iodide was now increased to fifteen grains and the amount of fluid reduced to eight ounces daily. On June 10th the dose of the iodide was increased to twenty grains. On the 17th the pulsation of the tumour was very feeble, the area of dulness was decreased the murmur, though still audible, was much diminished in intensity, the diastolic shock had disappeared and the patient was free from pain, he had lost some flesh and the pulse was of low tension. On July 6th he was allowed to get up for an hour. On the 19th the restriction of fluid and the iodide were abandoned and a more liberal diet was allowed. The patient remained in hospital as a convalescent until Oct 21st, when he left at his own request. He was then practically well and said he felt quite well. The pulsation though greatly diminished was still perceptible and a soft bruit was audible. These were the only symptoms that remained. Since the patient left the hospital he has at intervals of about a fortnight presented himself for examination. He was last seen on Dec 23rd, 1892, when he was in good health and complained only of a little increase in the beating if he did too much. The pulsation and the bruit which at first became rather more pronounced after he left the hospital have not since increased. He has twice called to be seen and inspected during the last month.

Remark.—In both of these cases the administration of potassium iodide was combined with Mr Tufnell's method, for the reasons that in the first there was a clear history of constitutional syphilis and in both cases the aneurysms were situated so near to the heart that it was unwise to omit the use of a drug credited with the effect of slowing the blood current. Dr Douglas Powell in his admirable paper on Aneurysm of the Aorta published in vol. xiii. of

The external jugular can scarcely be hurt, and should the anterior jugular be punctured the bleeding may be easily arrested by a firmly applied compress.

In comparing the open and subcutaneous methods we must admit that for safety, precision and completeness the former is the better, but it has the disadvantage of leaving a scar that might be very objectionable in after years in the case of a girl. It would hence perhaps be better to preserve the subcutaneous plan for female patients—in whom the vessels are smaller and the risks of hæmorrhage less—and practise the open operation upon boys.

The operation completed and the wound dressed, the important question of after treatment arises, for by no method of section can the deformity be immediately righted, and we must always be dependent for the complete restoration of symmetry upon measures which stretch the structures that our operation has left untouched—the muscles, ligaments and fasciæ that have adapted themselves to the contracted position of the neck. As a rule it is desirable to leave the parts undisturbed and without any extension apparatus for a week after the tenotomy, and then the completion of the work of cure may be undertaken and carried out perseveringly for two or three months. We have for this end a variety of mechanical appliances and of exercises in which both surgeon and patient can play their parts. Firstly, with regard to apparatus, the embarrassment of choice is somewhat serious. Such a terrible complication of cuirasses, gorgets and helmets, with screws and straps and buckles and bars and ratchets, has been appended to this innocent little neck section that their representations in the catalogues of the French and English instrument makers suggest rather the defensive harness of a Crusader than the gentle agencies of coercion required to right a few recalcitrant muscles. Fortunately there are simpler means which achieve the desired end, and of these the simplest and the best is probably that recommended by Little. 'Apply a long strip of adhesive plaster around the forehead and occiput the maintenance in position being better secured by a bandage passed over the vertex and beneath the chin, the two being pinned together where the one passes over the other above the ears. Next attach around the waist a broader band of adhesive plaster, not so tight as to interfere with the movements of the ribs, over this a turn or two of calico roll or bandage, the two should be fastened together by a stitch here and there. The surgeon has now two circular bandages—the one around the forehead and the other around the waist, which are not likely to slip if properly applied. He should then sew a strip of tape to the head bandage directly above the ear of the unaffected side and carry it diagonally across the trunk to the opposite side of the waist bandage and there pin it. By this means the left mastoid process (we are speaking of wryneck caused by contraction of the right sterno mastoid) will be drawn towards the right sterno-clavicular articulation the original wryneck will be removed and the chin brought to the median line, or in young and flexible subjects even across it towards the affected side, constituting a wryneck in the opposite direction.' This I have found so satisfactory that I have in recent years adopted only one other method—that in which apparatus of all kinds is discarded, and in suitable cases—that is to say, in patients who are old enough and have the will and power to assist in their own cure—the latter plan which is followed by Mr Edmund Owen and others, is very successful. The patient is directed to carry a weight in the hand of the affected side in order to bring down the clavicle, and to practise sedulously the rotation of the face towards the right shoulder (in right side contraction), with the ear downwards towards the left shoulder and the neck extended, the exercises being tried before a mirror and repeated as often as possible. At night he is advised to sleep on the affected side with the head resting upon a high pillow. In addition passive manipulation is of great value and should be carried out daily by the surgeon or an assistant, the movements always aiming at the widest possible separation between the mastoid process and sterno-clavicular joint of the affected side. By these means we may always calculate upon restoring the neck to its proper line except in cases in which the operation has been delayed to a relatively advanced age—that is, twenty or upwards—and even in these a very great improvement may be looked for. The asymmetry of face, unfortunately, is not amenable to treatment, but it is certainly less conspicuous after the neck distortion has been relieved.

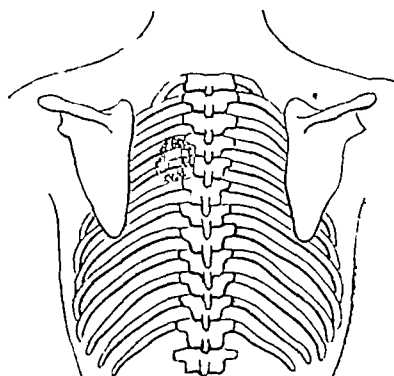
CLINICAL AND THERAPEUTICAL NOTES OF TWO CASES OF AORTIC ANEURYSM

By JOHN ANDERSON, M.D. ST. AND, C.I.E.,
M.R.C.P. LOND.,
PHYSICIAN TO THE SEAMEN'S HOSPITAL GREENWICH.

THE following two cases of aneurysm of the thoracic aorta seem to possess points of interest which render them worthy of record. In both cases the treatment followed was that laid down by the late Mr Tufnell of Dublin, combined with the administration of the potassium iodide, as advocated by Níclaton, Begbie, Roberts Balfour and others, and as far as the aneurysmal disease was concerned, the result was in each case satisfactory. The first case, however, terminated fatally from pulmonary phthisis, the symptoms of which were masked during the lifetime of the patient by those of the aneurysmal tumour. In the second case the disease was apparently cured and the patient was discharged from hospital with a greatly reduced area of dulness over the seat of the consolidated aneurysm, which had then lost its pulsation and murmur, and he remains up to the present time in good health.

CASE 1.—A man, aged forty eight, was admitted to the Seamen's Hospital on Sept 27th, 1890. No hereditary predisposition to any disease was traced in his family history. He suffered from primary syphilis, which was followed by constitutional symptoms, twenty years ago, and has indulged rather freely in alcohol. On admission he presented an anæmic appearance, and had of late lost flesh considerably—over 30 lb in weight, he stated, in the previous eighteen months (Fig 1). He complained of pains in the back, on the

FIG 1



left side opposite the fourth and fifth dorsal vertebra, he had a metallic cough, sudden attacks of dyspnoea which were of more frequent occurrence when up and walking about than when lying down, pain in the left shoulder, shooting down the inner side of the left arm and occasionally, to a lesser extent, down the right arm also. For the previous four months he had felt a 'beating sensation' in his chest under the left collar bone, and had noticed also that his voice had been more or less hoarse for two years past. No dysphagia.

Physical Examination.—His hair was turning grey and he looked older than his years, there was no difference in the size of his pupils, his left radial pulse was more feeble and of less volume than that of the right, but the beats were synchronous. His left hand felt colder than his right, both to other and to the patient himself. A pulsating prominence was obvious on the front of the chest beneath the inner half of the left clavicle, the superficial veins over the upper part of the chest were enlarged, especially those on the left side. The left jugular vein was very prominent, the expansion of the left chest on inspiration was limited, especially at the apex. (Fig 2.) There was marked dulness on percussion at the left apex extending from the middle line of the sternum to the middle of the clavicle, over an area the vertical diameter of which measured about three inches. The upper third of the left chest behind was also somewhat

ERYTHEMA OF THE FACE OF BUTTERFLY DISTRIBUTION

By THEODORE FISHER, M.D. LOND.,

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THE following are brief notes of four cases of erythema of the face seen at St. Saviour's Union Infirmary, East Dulwich Grove. The erythema in every case spread symmetrically over the nose and both cheeks, generally, however, being rather more extensive on one side than the other. All the patients were suffering from some affection of the stomach or intestines, and extremely ill at the time of appearance of the rash. One was a feeble old woman suffering from diarrhoea and vomiting. Two were the subjects of acute phthisis complicated by diarrhoea, and a fourth, a case of hæmatemesis from cirrhosis of the liver.

CASE 1.—A woman aged seventy-seven was admitted to the infirmary on March 31st, 1891, with irregular heart, no bruits, no albumen in urine. On April 15th she had severe epistaxis from which she never thoroughly recovered. For the next six weeks she had attacks of vomiting and diarrhoea, alternating with constipation. On May 30th, after two or three days of vomiting and diarrhoea, an erythema appeared on the face with rise of temperature to 102° F. The erythema had the distribution of lupus erythematosus, affecting the nose and both cheeks but descending slightly lower on the left than on the right. The affected skin was slightly swollen, of pinkish red colour with well defined edge. The eyelids were reddened and somewhat oedematous. The temperature



rose to 104° on the second day after which it remained between 100 and 102° until death occurred on the fifth day. The reddened area had then spread downwards on to the neck on either side, uniting under the chin, leaving that as a white island. It had also spread halfway up the forehead. Slight desquamation was commencing on the right side of the nose. The diarrhoea and vomiting had ceased when the rash appeared and the bowels were constipated during the last five days.

CASE 2.—A woman aged thirty was admitted on Feb. 3rd, 1892, with signs of extensive recent phthisis following old disease at the left apex. She suffered from diarrhoea and had five or six small deep ulcers on the upper surface of the tongue. On Feb. 14th, the day of death, there was swelling and redness of the nose and both cheeks. The reddened area had a well defined edge, was slightly tender but there was no complaint of itching or pain. The nurse said that it had commenced four hours previously.

CASE 3.—A man aged thirty-five was admitted on Jan. 29th, 1891, with signs of extensive phthisis and a history of only a few weeks' illness. He had severe diarrhoea. On Feb. 16th he had symmetrical redness and swelling of nose and both cheeks with well defined edge. The redness continued until death on the following day, but had not spread beyond the cheeks. He was conscious to the last,

but made no complaint of his face, his attention being directed to his cough.

CASE 4.—A man aged fifty-three was admitted to the infirmary on June 3rd, 1891, suffering from jaundice with ascites, due to cirrhosis of the liver. On July 6th he had severe hæmatemesis, vomiting about two pints of blood. The hæmorrhage nearly proved fatal. On the following day an erythema of precisely the same character as that seen in the other three cases appeared on the nose and cheeks. The temperature was 100.2°. This disappeared in four or five days, as the patient slowly recovered from the loss of blood.

In one of the above cases the swelling is described as slight—that is to say that it was slight compared with the swelling usually seen in erysipelas of the face, in all, however, it was sufficient to cause considerable disfigurement. Its distribution associates it with one variety of Guitta Rosea, of which I suppose it may be considered a very acute form. It is possible that the first case may have been erysipelas, but at its commencement it closely resembled the other three, in which there could be no suspicion of that disease. In that case and in the other two that ended fatally the erythema may have been merely a symptom of failure of some part of the vaso-motor system, the prelude to general circulatory failure. In the fourth case the patient was almost moribund from severe hæmorrhage at the time of the appearance of the rash and it disappeared as he recovered. The high temperature noticed in the old woman, which was uncomplicated by the pyrexia of acute disease, may be considered to militate against this view, but not unfrequently especially in cases of diarrhoea, the temperature rises as the final collapse approaches. This has invariably been the case in my small experience of children in one instance the temperature reaching as high as 108° F. before death.

Greenwich, S. E.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL AND THERAPEUTICAL

A CASE OF RUPTURE OF THE LIGAMENTUM PATELLÆ, WITH TREATMENT

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THE comparative rarity of rupture of the ligamentum patellæ makes the record of any such case of considerable interest, especially when the treatment adopted has resulted in a perfectly satisfactory recovery of the injured parts, as in the following case.

H. B.—, whilst leaving his hotel missed a step and fell heavily, his knee giving way he found he was unable to rise. In this condition he was found, and a medical man was sent for, who had his leg temporarily fixed on a splint and ordered his removal to bed. On the following day I was telegraphed for, and saw him with Mr. Alford of Weston super-Mare, the gentleman who had attended him. The following conditions were found. The patella on the injured side was drawn upwards on the thigh three-quarters of an inch and a deep depression was left at the usual site of the ligamentum patellæ. The distance between the lower border of the patella and the upper border of the tuberosity of the tibia on the injured side was one inch and three-quarters, whilst on the sound side measurement gave one inch. As the chief point in treatment was to counteract the pulling upwards of the patella by the extensor cruris muscles I had a splint made after Manning's pattern, a description of which with the woodcut is given in "Erichsen's Science and Art of Surgery." It consists of a back splint hollowed to fit the shape of the back of the leg and reaching from the gluteal fold to the sole of the foot, with a footpiece attached at a right angle. Where the heel comes it is deeply hollowed, and about nine inches above is an obliquely punched slit across the splint about two inches and a half long. A bar runs through the hollow at the heel of the splint and projects on either side. The limb having been bandaged to the knee, strips of plaster cut two inches wide and long enough to overlap in front of the thigh are stitched by their centres to a strip of stout calico or webbing and applied to the thigh from above down-

the Medical Society's Transactions, asks, "Should the iodide of potassium be used in association with Iufnell's treatment?" In the debate which followed the iodide was by the majority of speakers regarded as an adjunct of great value. Dr Broadbent expressed the opinion that it strikingly promotes coagulation within the sac. As to the question of the diagnosis in these cases in the first it was unfortunately verified post mortem and the specimen showing the large coagulum is now in the museum of the Seamen's Hospital. In the second case the combination of pulsating tumour, loud systolic bruit and diastolic shock left no room for doubt. The situations of the aneurysms were most unfavourable and they consequently afford ground for encouragement even in the gravest cases.

ON AUSCULTATORY PERCUSSION OF THE SKULL, AND THE STATE OF THE SCALP IN CHRONIC HYDROCEPHALUS AND OTHER MORBID INTRA CRANIAL CONDITIONS.

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PROFESSOR OF MEDICINE, ST MUNGOS COLLEGE AND PHYSICIAN TO THE ROYAL INFIRMARY, GLASGOW.

VIBRATIONS are readily conducted from one part of the skull to another, thus, on listening with the stethoscope on the side of the head over the upper part of the coronal suture while the soft tips of the fingers tap smartly the opposite side of the cranial summit, the sound of the taps is heard very distinctly. However, the note in the young and in mature life differs considerably. With a view to determine the effect of age in modifying the sound I lately examined fifty individuals thirty of whom were children under twelve and twenty adults. In the child the sound is more hollow and the resonance greater than in the adult, and this is even more striking in the infant. The conduction of the vibrations is most free across the summit of the head about its middle. It is less obvious if while listening on one side, percussion is made on or around either the opposite parietal or frontal eminence, especially the latter. When the skull undergoes change through disease the normal sound, both in adults and children is altered. Definite observation on the alteration of note appears hitherto to have been made only in connection with chronic hydrocephalus. My attention was first called to it about three years ago by Professor Macewen of Glasgow, in a case of this disease, and he also pointed out its presence in two or three similar cases in the Sick Children's Hospital soon afterwards. Since then, with the exception of one or two casual observations, there seems to have been little further study of the subject. Two patients suffering from hydrocephalus having recently come under my care in the infirmary I have taken advantage of the opportunity to investigate the nature and probable causation of the sound in question. The condition of the scalp was also carefully observed and I think presents points of practical importance. These cases will now be briefly recorded.¹

CASE 1.—A domestic servant, aged fifteen years and a half, was admitted into the infirmary on Oct. 13th, 1892. Her parents stated that she was considered clever when at school and that she was in good health till May, 1890. She was then sent to learn dressmaking, but at the end of a year her employer complained of her slowness and general incapacity. Shortly afterwards, following on a sudden attack of sickness and vomiting, the power of the right leg was found to be impaired, and ever since, though able to walk, there has been weakness of that extremity with a degree of stiffness of gait. On several occasions she has wetted her clothes during the day as well as at night. She has not yet menstruated. In other respects both personal and family history are satisfactory.

On admission there was obvious simplicity and childishness in her manner and bearing though replies to simple questions were correct. The head was distinctly larger than usual at the girl's age and also very flat on the top. This increase in size had likewise been noticed by her relatives. The scalp particularly over its middle, was soft and relaxed to the touch, and was also generally more movable than usual. Auscultatory percussion of the head at the points mentioned

and in the way described revealed undue resonance, and the note partook somewhat, though not markedly, of the cracked pot character. There was no tenderness on percussion of the skull with the finger at any part. The functions of the cranial nerves were normal. The grasp of both hands was weak, but the dynamometer showed no difference between them. Muscular sense was impaired. Sensation was good. Reflexes at the elbow and wrist were a little exaggerated. The knee reflexes were also increased and there was slight ankle clonus.

Since admission she has not improved. She has not complained much of headache, but has had giddiness and sudden vomiting once or twice a week. There are indications of a slight and receding neuro-retinitis in the fundus of both eyes. Since the application of two fly blisters over the head the relaxation of the scalp has become less obvious, but it is still present. The measurements of the head on Nov. 12th were: From root of nose to occipital protuberance, 13½ in., across, from ear to ear, 12½ in., circumference at one inch above ears, 23 in. Unfortunately the head was not measured on admission. The diagnosis was: Small tumour, probably pressing on the straight sinus and so causing serous effusion into the lateral ventricle.

CASE 2.—A boy, aged four years, admitted July 30th, 1892. This child is stated to have been healthy till it was two years old. Then he had abdominal troubles, from which, however, he recovered. His head had been enlarging unduly during this last year and he had complained much of headache at intervals. In June he had an unconscious attack, followed by general rigidity of arms and legs, which continued for about one and a half hours. For many months he has been unable to walk and during the same time he has had no power over the bladder and rectum. The little patient has the characteristic aspect of hydrocephalus. The head is very heavy and flat on the top. The anterior fontanelle is prominent and distinct fluctuation is to be felt in it and along the lines of the adjoining sutures. The scalp is very thin and stretched and fits very close to the skull. Auscultatory percussion brings out a hollow, drum like note, with less approach to the cracked pot character than in the other patient. The measurements of the head taken on Aug. 3rd were: Antero-posterior, 13½ in., from ear to ear, 13½ in., circumference, 21½ in. On Nov. 12th, in the same order, they were respectively, 14, 14, 21½.

With respect to the softening and relaxation of the scalp in Case 1 the condition seems analogous to that of the vulva, vagina and os uteri at the beginning of parturition, though less marked than in them. It is to be observed that the changes in these parts are not to be regarded as wholly due to mere mechanical distension, but are to be attributed largely to the provision of nature which prepares them for the process of stretching at a later stage. So, too, it may be with hydrocephalus. At the commencement of the distension resulting from a comparatively small effusion, and probably also till the amount be considerable, the scalp may be in this state of relaxation, but later, especially when the fontanelles are open and the bones are separating at the sutures, it will become thin and stretched, corresponding with the state of the os uteri as labour advances. Respecting the mode of production of the altered note heard by the method of auscultatory percussion in such cases it is probably due to the thinning and stretching of the skull and membrane covering the fontanelle in children where the latter is still open. On the other hand in cases such as that of the girl, where the note partakes of the cracked pot character, the commencing separation of the bones at the sutures and consequent impaired continuity of the skull will contribute to the effect. These conditions exist in hydrocephalus, but atrophy of the cranial bones, however induced, will probably be attended by a degree of the same note, just as it is present in the thin skull of the healthy child.

Auscultatory percussion may prove of use in other conditions which probably modify the conduction of vibrations along the bones—for example, superficial hæmorrhages and new formations in the bone, membranes and cortex. These, if considerable, may be likely to interfere with the transmission of vibrations. But a diminution in the normal note produced by tapping the skull would also be valuable as a physical sign if it proved to be indicative of certain morbid changes at the part under examination. Thus a subdural effusion of blood consequent on injury or apoplectic seizure, may modify the note by its pressure on the overlying bone, and if so the alteration of sound would be a guide to the point at which the operation of trephining the skull should be performed for the purpose of removing the effused blood.

¹ The patients were shown and these points demonstrated at a meeting of the Glasgow Clinical and Pathological Society on Nov. 14th, 1892.

primary union, but the bronchitis gave us much alarm and threatened more than once to carry off the patient before she could be allowed to get up, otherwise she made an excellent recovery, and although not wearing a truss the hernia did not again come down during the remainder of her life, which was terminated by the bronchitis three months after the operation. Although her age was so great she was thin and wiry, and had she not been a sufferer from bronchitis would no doubt have survived for several years. From the matted and adherent state of the omentum the hernia must have existed some considerable period of time before it was noticed.

Chetwynd road, Highgate N W

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By B. H. NICHOLSON, M.B., C.M. EDIN.,
LATE RESIDENT SURGEON, ESSEX AND COLCHESTER HOSPITAL.

THREADWORMS are one of the commonest and yet one of the most troublesome ailments we are brought into contact with in practice and unless treatment is firmly and properly carried out, relapses are certain every few months, often producing reflexly epilepsy, chorea, convulsions, insomnia and many other debilitating and distressing troubles. First, one or two remarks as to the habitat of the nematode. The ova may develop in the large intestine of the host, or after irritation and scratching of the anus the ova may be carried to the mouth of the patient, swallowed and then the embryo may be liberated from its cell wall by the action of the gastric juice and then gradually become a mature oxyuris and inhabit the cæcum and large intestine. By the time the female oxyuris reaches the sigmoid flexure and rectum the uterus is full of ova which may be born into the intestinal tract or liberated on the expulsion of the oxyuris from the anus.

Treatment—The child should be bathed twice daily, the underclothing changed frequently, a draw sheet put below the patient at night, the nails kept short, the fingers dipped frequently in an infusion of quassia, and the anus smeared night and morning with an ointment composed of nitrate of mercury with a small quantity of extract of quassia added. The condition of the bowels should be attended to. Mercury with chalk and rhubarb and soda powder should be prescribed to secure daily evacuation. Now santonin must be given every other night for a week and if taken longer santoninism must be guarded against—viz. tenesmus, spasms, yellow vision, hemorrhages and red yellowish urine. Attention should be paid to the bile secretion, the great antiseptic of the intestinal tract. The endeavour should be to increase peristalsis and diminish the secretion of mucus by giving as a tonic citrate of iron and strychnine in moderate doses after food. I have lately been using with great benefit extract of quassia made into a suppository with cacao butter (one to three grains), these suppositories are easily introduced at night and children do not object to them. Injections are disliked by children and it is difficult to get the mother or nurses to take the necessary trouble. An injection of menthol (one grain) dissolved in one ounce of olive oil is often useful. The child should have abundance of out-door exercise and a free diet, avoiding uncooked vegetables, fruit, sweets &c and anything likely to produce catarrh or increase the mucus. The patient should be isolated during the period the oxyurides are being expelled, kept from school, should sleep alone and not be allowed to mingle with other children. This treatment should be maintained until all signs of oxyurides are obliterated.

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FATAL FOOTBALL CASUALTY—On the 3rd inst an inquest was held at Durham on the body of a football player who suffered fatal injuries in a match played in October last. It appeared that the injury was sustained by the deceased coming into violent collision with another player, causing fracture of the spine.

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ROYAL HOSPITAL FOR CHILDREN AND WOMEN, WATERLOO BRIDGE ROAD

CONGENITAL CYSTIC HYGROMA OF NECK TREATED BY
DISSECTION AND IODINE.

(Under the care of Mr MARMADUKE SHEILD.)

THIS case is a very typical one of those congenital cervical cysts to which the names "cystic hygroma" and "hydrocele of neck" have been applied. The affection has been fully described in this country among others by Mr T. Smith, Mr Birkett and Mr Holmes. This case forcibly illustrates, what was especially pointed out by Mr Holmes, that, however superficial they may appear, the major part of these cystic growths invariably extends beneath the deep fascia, the superficial cysts being merely hernial protrusions which have likely enough found their way through the deep fascia by pressure. The free extension of this cyst by large loculi beneath the deep fascia, reaching towards the base of the skull and hyoid bone, is worthy of attention in relation to the theory propounded by Mr Sutton, that these cysts may be representative of the laryngeal sacculculi of certain monkeys. The amount of soft, vascular, intra-cystic growth in this case was remarkable, and when fungation occurred from inflammation caused by the iodine it was indeed difficult to believe that the growth was not of a malignant nature. As is well known, all kinds of treatment have been employed to effect the cure of these cysts. All treatment is risky, for young children ill bear extensive operations and prolonged suppuration. Probably it would be well in the majority to postpone any operative interference until the child has attained the age of puberty, but inflammation of the cysts may compel us to interfere, and so may the importunities of relatives. If the surgeon be well assured that even in the most simple looking cases he has really a difficult task before him, removal of these growths by dissection is probably the most satisfactory treatment. The superficial cysts can thus be safely removed and the deeper loculi obliterated by drainage and the subsequent inflammatory process. The masses of solid growth, unless easily removed, had better be left intact. They are often very vascular and so incorporated with adjacent structures that safe removal may be out of the question. The perilous illness through which a young patient operated upon for congenital cervical cyst may have to pass is illustrated by the present case. Indeed, had it not been for the care bestowed upon the case by the house surgeon, Mr Richards, and the employment of excellent nursing, a different result might have occurred. In conclusion it may be borne in mind that quite a significant number of these cases undergo spontaneous cure by inflammation, suppuration and subsequent shrinkage. This is especially likely to occur when the cyst is of enormous size and liable to injury. Hemorrhage has also taken place into the cyst cavities with subsequent shrinkage, and the possible communication or close connexion of the cysts with large veins in the neck must not be lost sight of in performing the operation of removal by dissection. For the notes of the case we are indebted to Dr Theodore Fisher, registrar to the hospital.

F B—, aged one year and seven months was admitted on Sept. 12th 1892. History. A swelling in the hinder part of the neck, present at birth, but is said to have been much smaller at that time. Has twice been tapped by Dr Daniel of Epsom, who sent the case to Mr Sheild, the last tapping having been six weeks ago. Clear fluid was drawn off. The swelling has increased considerably in the last six months.

On admission to hospital the child was fairly well-nourished, but pale and delicate looking and of stunted

wards, thus grasping the muscles so that when traction is made on the calico band the muscles with the patella are drawn downwards. This band is passed through the slit in the splint and a loop is made in it at that level, through which a bar similar to the one in the hollowed heel is passed, and then by stronger or weaker elastic bands, attached round the ends of the bars, greater or less traction on the muscles inserted into the patella can be made. The patient returned home by rail after this splint had been fitted some days and wore it for six weeks after which the knee was put up in plaster of Paris for a fortnight. Passive motion and massage were then practised, the stiffness gradually wearing off, he being able in a week or two, wearing one of Dr Fisher's flexible knee caps, to walk about with the aid of a stick. Now at an interval of three years and a half he is able to use the leg freely, and says he has to think before he can remember which was the injured leg, the muscles having a firm point of fixation in the new tissue. The measurement between the lower border of the patella and the upper border of the tuberosity of the tibia is now one inch. The patient is subject to chronic albuminuria but this has not affected the process of repair.

King's Parade Clifton.

MUMMIFICATION OF A FÆTUS IN THE UTERUS

By JAMES OLIVER, M.D. & R.S. EDIN.

A WOMAN aged twenty six and married eight years has had four children but no miscarriage. The last child was born twenty seven months ago and was suckled for two years. After this confinement the menstrual discharge reappeared when the child was fifteen months old and it recurred regularly every month until March 24th. From this date until Aug 15th there was complete amenorrhœa. On Aug 15th she complained of pain in the lower abdomen and simultaneously she noted the existence of a slight hæmorrhagic discharge from the vagina. The pain, which was never severe and the hæmorrhage, which was slight, continued for seven days. Between Aug 22nd and Sept. 21st—the date on which the patient came under my observation—nothing worthy of note had occurred. On Sept 21st the physical signs were as follows. Nothing was revealed by abdominal examination. Vaginally the cervix which was not soft, was directed towards the left side of the pelvis. In front of the cervix and on the right side was felt a somewhat lobulated swelling about the size of a small cocoa nut, this swelling was the body of the uterus. As I considered the history and physical signs to be in keeping with the existence of a mummified fœtus in the uterus the patient was admitted into hospital. On Oct 21st patient again began to complain of pain and simultaneously there was observed a free discharge of blood from the vagina. On the following day an almost round mass was expelled. The longitudinal diameter of this mass was three inches and the transverse two inches and a half. The greater part of the mass was placental it was lobulated and fibrous looking. Through a thinned portion of the mass the fœtus enclosed in its own membrane was expelled. The cavity in which the fœtus had lain was lined by another distinct membrane.

Description of the fœtus—It is five inches long and the head is disproportionately large. The eyelids are open, but no part of the eyeball can be distinguished. No definite hairs can be made out on the scalp. The mouth is large and open and the tongue protrudes slightly. The fingers and toes are distinct, but the presence of nails is doubtful. The umbilicus is at the lower end of the middle third of the linea alba. There is no remnant of the cord. The labia majora are distinct and the clitoris is comparatively large.

It is more than probable that this patient conceived soon after March 24th that death of the fœtus occurred on or about Aug 15th, and that the process of mummification extended from this date until Oct 22nd the date on which the contents of the uterus were expelled.

Gordon square W.C.

TWO CASES OF STRANGULATED FEMORAL HERNIA WITH RECOVERY AFTER OPERATION

By CHESMAN BARKER, M.B., L.R.C.P. LOND., M.R.C.S.

THE following cases may be of interest to the readers of THE LANCET as showing the success which follows early treatment of strangulated femoral hernia by operation, even

though performed by surgeons unskilled in herniotomy, and without the manifest advantages pertaining to operations performed in hospital. That a femoral hernia when strangulated is a very much more serious affair than an inguinal hernia in the same condition is well known, but the comparative mortality is perhaps not appreciated at its proper ratio by the profession generally. The statistics of St. Bartholomew's Hospital for the year 1891, collected by Messrs. Bowlby and Lockwood, show that thirty one operations for strangulated hernia were performed in that year, and that of these six were for inguinal and twenty five were for femoral hernia. Of the inguinal cases none died, giving for that year a mortality of 0 per cent. Of the femoral cases eleven died, giving a mortality of 44 per cent. It is probable that this greatly increased mortality is largely due to the fact that the intestine is damaged so rapidly in femoral hernia by the unyielding margins of the ring that the delay which generally takes place in conveying a patient to a hospital is sufficient to allow the intestine to be injured beyond recovery. That femoral hernia is not more dangerous than the inguinal variety, if operated upon in time, is probable, and in support of this statement I give below two cases of femoral hernia in which operation within two hours of recognising the condition was followed by rapid recovery. In both cases the intestine was quite uninjured, being only a little congested, and it is highly probable that if time had been wasted in sending these patients to a hospital, or if one had had to send many miles for a surgeon, the intestine would have fallen into a condition rendering the operation one of difficulty and danger instead of the easy and successful measure it proved to be.

CASE 1.—On March 31st, 1892, I was called to see Mrs. H. W., aged thirty years whom I found to be suffering from a strangulated right femoral hernia. The hernia had existed for several years, but she had never worn any truss. She had been in the habit of putting it back herself, but on March 28th it became painful and she was unable to reduce it. Next morning she was in considerable pain and was vomiting and the bowels had not been moved. On the following day when I saw her she was in great pain and her tongue was dry and furred, and her expression was anxious. The hernia was tense and tender, was irreducible and had no impulse on cough. I therefore at once decided to operate, and the patient being put under the A.C.E. mixture, a vertical incision was made over the swelling, and the sac being opened on a director showed that the contents consisted chiefly of omentum. A small incision of Gimbernat's ligament easily allowed of the reduction of the intestine, the omentum being firmly adherent along the outer side of the femoral canal was ligatured and cut off, as also the redundant portion of the sac after the neck had been sewn up with silk ligatures, the skin wound was united with silk sutures and an indiarubber drainage tube inserted, the wound was dressed with boracic acid lint and absorbent wool, and fifteen minims of tincture of opium were ordered every four hours. On the second day after the operation her temperature rose to 99.2, and this was its highest point during her illness, the wound healed in nearly its whole length by first intention, but a little suppuration at its lower corner delayed complete union until the end of a fortnight, the bowels were spontaneously opened at the end of nine days, and four weeks after the operation she was able to wear a truss and get about her daily work. I saw her a few weeks ago and then she was in perfect health and the hernia had not again come down.

CASE 2.—On April 26th 1892 I was asked to see Mrs. B.—aged seventy three years, Dr. Owen Roberts, her medical attendant, having discovered the presence of a strangulated hernia. She only noticed the lump a fortnight ago, and on the 25th was seized with pain and vomiting, the bowels being constipated. In the right groin below Poupart's ligament was a small tense swelling, in which on coughing no impulse could be detected, and feeling as though it contained much fluid. The patient was also suffering from an almost continuous cough, the result of chronic bronchitis. Dr. Roberts having put the patient under the A.C.E. mixture taxis was tried, but the hernia not showing any tendency to go back I proceeded to operate and found as I had suspected, that the sac contained much fluid. It contained omentum firmly adherent to the sac and a small knuckle of intestine of a deep claret color. The subsequent steps of the operation were similar to those in the preceding case, the omentum being ligatured with silk ligatures and the neck of the sac sewn up with the same. Seven days after the operation the wound had healed by

primary union, but the bronchitis gave us much alarm and threatened more than once to carry off the patient before she could be allowed to get up, otherwise she made an excellent recovery, and although not wearing a truss the hernia did not again come down during the remainder of her life, which was terminated by the bronchitis three months after the operation. Although her age was so great she was thin and wiry, and had she not been a sufferer from bronchitis would no doubt have survived for several years. From the matted and adherent state of the omentum the hernia must have existed some considerable period of time before it was noticed.

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On admission to hospital the child was fairly well-nourished, but pale and delicate looking and excited.

growth, rickety, well marked large Parrot's nodes, slight bending of ribs and enlargement of wrists. There was an ovoid, strikingly translucent, soft, cystic swelling, the size of a hen's egg, situated in the right posterior cervical triangle. It just overlapped the mastoid process above and extended downwards to the clavicle. Within the cyst was a hard, slightly nodular mass the size of a marble, apparently attached to the sterno-mastoid muscle. The skin over the swelling was smooth and natural in colour, and could easily be separated from the wall of the cyst.

On Sept. 14th, the A.C.E. mixture having been administered, Mr. Sheild made an incision over the swelling about three inches long, parallel to the posterior border of the sterno-mastoid. The skin was dissected off the very thin cyst wall as far as the surface of the muscles on both sides. The cyst was at this stage unavoidably opened and found to pass by a narrow opening through the deep fascia, under the sterno-mastoid, upwards towards the hyoid bone, downwards towards the sternum. There were several smaller cysts and some solid growth, and all these deeper parts were intimately connected with the carotid sheath. On opening the cyst three or four ounces of clear lymphoid fluid escaped, which feebly coagulated. The portion of cyst wall from which the skin had been dissected off was removed and several of the smaller cysts opened, the large prolongation beneath the sterno-mastoid was washed out with equal parts of tincture of iodine and water. Finally the skin was sewn



to the edges of the cyst and the large cavity was plugged with iodoform gauze.

Sept. 20th.—Temperature rose to 103° last night, till then there has been little rise since the operation, the highest has been 100·6°. The child's cheeks are flushed. Pulse 144, occasionally drops a beat. The wound is filling up well with granulations.

Oct. 17th.—Temperature remained between 100° and 103·8° until Oct. 2nd, when it fell to normal. From then till yesterday the child seemed to be steadily improving, when the temperature suddenly rose to 104·8°. To-day a director was passed into the wound in several directions but no pent up pus was discovered. The cavity has granulated up well, but a fungating mass the size of a russet apple remains, presenting much the appearance of sarcoma.

19th.—For some time a small cyst has been noticed between the anterior border of the sterno-mastoid and the angle of the jaw, and during the last two or three days another smaller one lower down and rather more superficial has been observed. A.C.E. mixture was given. A small skin incision was made and the cyst opened by pushing in a steel director. About a teaspoonful of clear fluid was evacuated. The temperature remains between 100° and 103°.

24th.—There is some oedema and a slight redness over the cyst area and there are a few dilated veins running upwards from the upper part of the right side of the chest over the

clavicle. Several small incisions were made by the house surgeon and warm boracic acid dressings applied.

25th.—There are some signs of broncho-pneumonia at the right base. The temperature oscillates between 102° and 103°, respirations 42, pulse 160. The child is evidently very ill, but takes nourishment well.

Nov. 6th.—The temperature down to normal to-day, the signs of broncho-pneumonia have disappeared. The redness and oedema round the wound have also disappeared. There are still some distended veins running up over the clavicle.

18th.—The temperature has remained normal since the last note. The wound is quite healed. There is a thin linear scar about one inch long by a quarter of an inch, parallel with and just behind the middle of the posterior border of the sterno-mastoid muscle, to which it is attached by a mass of indurated tissue about the size of a hazel nut. The skin around the scar is puckered into numerous folds. In front, between the angle of the jaw and the sterno-mastoid muscle, a small soft cyst can be felt about the size of a haricot bean. The enlarged superficial veins running up over the clavicle have diminished in size. A complete cure seems established of the main bulk of the tumour, but the child is pale and puny and is seriously pulled down by its severe illness.

EVELINA HOSPITAL FOR SICK CHILDREN.

CASES OF FACIAL PARALYSIS OF RHEUMATIC ORIGIN IN CHILDREN, IMPLICATION OF THE SOFT PALATE.

(Under the care of Dr. GEORGE CARPENTER.)

FACIAL PARALYSIS in infants and children is common enough if those cases associated with middle-ear disease and otorrhoea with caries of the petrous portion of the temporal bone be taken into consideration. Much less frequently abscess or enlarged glands behind the angle of the jaw or parotid implication will cause this condition. Congenital syphilis (very rarely), traumatism from delivery with forceps, disparity of foetal and maternal parts, and prolonged, though normal labour, may form causal agents. There is also a functional form, one secondary to post-pharyngeal abscess (Bokdy) and an incurable congenital form (Henoch) that have been reported. Paralysis such as is met with in adults from exposure and due to neuritis of the nerve in the Fallopiian canal is thought by many observers to be rare in childhood. Goodhart has seen it only once in a girl of about eight years, but Steiner and Henoch, as also Angel Money, mention cases of this nature. Gowers, on the contrary, considers the affection rare under ten and remarks "only two cases occurred in this period, and each was in the second year of life."

The following account of cases under the care of Dr. George Carpenter may therefore prove of interest, they are brought forward not only on this account, but because one of them had the soft palate markedly affected. This happened to Case 2 in the list.

CASE 1.—A child aged five years was brought to the hospital on Sept. 17th, 1891, for weakness of the eye and deafness. She had right-sided facial paralysis. This came on quite suddenly and persisted for two months and a half. There was no discharge from the ear and there never had been. The short process in the right ear appeared prominent. There were no signs of an antecedent or present perforation. The left ear contained wax normally. The child said she could hear better with the right ear. This was probably due to paralysis of the stapedius and overaction of the tensor tympani.

CASE 2.—A girl aged nine years and a half had suffered from facial paralysis of the right side for eight months. She had been absent for three months since May 15th, 1890, with scarlet fever, at the New Cross Fever Hospital, but on her discharge returned under Dr. George Carpenter's care. She was last seen on Aug. 21st, 1890. Her state was as follows.—She could not frown on the affected side or close the right eye and the lower muscles on the same side of the face were quite paralysed. The tongue was straightly protruded. The mother stated she used to drag the right leg and did so a little when brought to the hospital and was weak in the right arm. Soft palate. At rest the uvula was nearer the left tonsil and moved towards the left on phonation. The movement was nearly all on the left side of the soft palate. The left tonsil was

enlarged, this was interesting because both tonsils were partially removed before her attack of scarlet fever. She spoke with a nasal intonation and liquid returned through the nose. There were no other palsies. The grasps were equal, reflexes normal, walking normal, no history of congenital syphilis, nor could the paralysis be accounted for in any way. The lesion must have been above the geniculate ganglion to cause the implication of the soft palate. There was nothing in the case to suggest syphilitic or new growth implication of the nerve or neighbouring nerves and it is probable that the neuritis extended up to the point mentioned. But such a bold statement is not by any means sufficient. Gowers¹ says "My own observations have led me to entertain considerable doubt as to the occurrence of paralysis of the palate from disease limited to the facial nerve in any part of its course." Only once in 100 cases had he found paralysis of the palate and this was on the side opposite to the palsy of the face. "The best established fact regarding paralysis of the palate is that it is produced by disease at the side of the medulla, damaging the hypoglossal and spinal accessory." Gowers is of opinion that it is very doubtful whether the petrosal branches of the facial nerve supply the palate and considers the spinal accessory responsible. Hughlings Jackson² also says that he has never seen paralysis of the palate due to disease of the facial nerve. Other writers, however, are of opinion that paralysis of the palate does occur in cases of facial paralysis sometimes. Any suggestion that might be made as to this being another instance of anatomical or physiological eccentricity of the palate can be met with the fact that fluids returned through the nose, showing unmistakably that there was paralysis. It was on the same side as the lesion and not on the opposite, as in Gowers' case. At no time was it possible to detect evidences of disease in other or neighbouring portions of the nervous system, and with the exception of the facial paralysis the child, as far as could be discovered, was perfectly well. She was seen by Dr Syers of the Great Northern Hospital and he quite concurred with the diagnosis which had been made. Until something occurs to negative this supposition the original diagnosis must hold good. Her name and the date when she was last seen have been given, so that should she have passed under the care of any other physician a sequel may be added. The child has left the address given and no further tidings of her can be obtained.

CASE 3.—A child aged seven years attended on April 13th, 1891. She had suffered from pain in the head and right ear for years. Her mouth was drawn to one side for a week. There was a neurotic history in the family in the shape of chorea, convulsions and epilepsy, and a great-aunt was in an asylum till she died. Three weeks back the child had an unusually severe "screaming fit" at night. She woke up screaming at midnight, did not know her mother and would not speak to her. She soon fell asleep, however. The next morning the girl was "puffy about the eyes." A week ago she complained of pain in the head and right ear and she was noticed to be deaf on the right side, the face was drawn to the left side. The child was thin-faced and pale, the right side of the face was expressionless, the right eye watery and the mouth drawn over towards the left side. When she frowned the left eyebrow alone moved. The right eye could not be closed, tongue protruded naturally, soft palate normal. Right ear. Tympanic membrane (?) marked by desquamating scales. She could not hear a watch held half an inch from the right ear. When the watch touched the mastoid process she could hear it. She had a discharge from the ear when quite young, nothing seen for two years—April 20th. Much about the same.—June 22nd. Face is much better.

CASE 4.—A boy aged two years and five months attended as Dr George Carpenter's out patient on Dec. 17th, 1891. On getting up a week prior to this he fell and could not stand up. He was quite well the night before, not subject to fits. There was never a discharge from the ears, no history of exposure to draught or cold. The following day something wrong was noticed with his face. The patellar reflexes were brisk. The arms were used equally and well. When the child laughed or cried the left angle of the mouth and the left orbicularis palpebrarum did not move. The eyeball did not roll up when an attempt was made to close the eye. The soft palate moved equally. The ears were full of wax, but otherwise normal. In three weeks time under galvanism he was almost well.

SEAMEN'S HOSPITAL, GREENWICH

ABSCESS OF LIVER WHICH RESULTED IN DEATH FROM SEPTICÆMIA.

(Under the care of Dr CURNOW.)

THIS case was an interesting one in many particulars, for (1) the rigors were so regular day by day that malarial fever was diagnosed and the plasmodium sought for until the failure of quinine and other anti malarial remedies led to a change in the diagnosis, for although septicæmia frequently simulates the rigors of an ague, yet this case shows this coincidence most strikingly, (2) the paroxysms of fever occurred daily for over fifty days and on one occasion a temperature of 108° was noted, (3) the abscess could not have been reached, even if its situation had been diagnosed, (4) the age of the abscess as shown by the thickness of its capsule and its fibrous character, but yet causing death by pyæmia, with secondary abscesses in both lungs as well as in the liver, and (5) the absence of any dysenteric mischief in the intestine. For the notes of this case we are indebted to Dr Spencer, house physician.

The patient, a German, aged thirty nine, was admitted into the Seamen's Hospital, Greenwich, on Oct 5th, complaining of daily shivering fits followed by sweating and fever. He had been a sailor for the greater part of his life, but had not lately visited any malarial countries. Eight years ago he was at Panama, but had no fever there and had never suffered from dysentery. Three months before admission, when at Boston, U.S., he was attacked with pain in the right side, which he attributed to a strain caused by lifting a heavy weight. He was laid up in hospital for five days, after which he recovered and seems to have kept in his usual health until two days after reaching England (Sept 30th), when he began to suffer with severe shivering fits every day, followed by fever and sweating and accompanied by severe headache. In the intervals between these attacks he expressed himself as feeling fairly well.

On admission (Oct. 5th) the patient was a well nourished man with a sallow complexion, there were no abnormal physical signs over the lungs or heart, the splenic dullness was enlarged and the edge of the spleen was just palpable, the liver could be felt about two inches below the costal margin in the nipple line and was a little tender on palpation, the tongue was much furred, the urine was free from albumen or bile pigment. Every day he was attacked with a violent rigor with a rise of temperature to 103° or 104°, followed by profuse sweating. The attacks came on generally in the evening and lasted from twenty minutes to a couple of hours. During these rigors he was in much distress, with rapid pulse and respiration vomited and complained of pains about the body. He was fairly comfortable, however in the intervals. Examination of the blood showed nothing abnormal, except some increase in the number of white corpuscles. He was treated first of all with quinine, to which in a few days arsenic was added. By Oct 21st the quinine was increased to fifteen grains every six hours. This treatment had no effect on the course of the disease. The rigors continued. The temperature rose higher than ever during the attacks reaching on one occasion 108°. A few days were passed without a rigor but occasionally two would occur on the same day, they occurred more frequently in the evening than at other times, but there was no marked periodicity in the times of their occurrence. By Oct 29th he had lost some flesh and had developed a cachectic appearance with sallow, earthy complexion, tincture of eucalyptus was ordered in three-grain doses and steadily increased without any influence on the disease.

After continuing much in the same condition for about three weeks he became markedly worse, pleuritic friction developed over the lungs in the infra axillary regions and in front of the chest on either side and coarse râles were heard over the lower part of both lungs, especially on the right side with some impairment of resonance. Some intermittent pain was complained of in the right shoulder and arm.

On Nov 25th Warburg's tincture was ordered. The temperature now became less oscillating although still very irregular. The respiration became continuously hurried and the strength failed rapidly. There was towards the close some cough, with thick mucopurulent sputum in small quantity. Death occurred somewhat suddenly on the morning of the 28th.

Autopsy, Nov 29th.—The liver was considerably en-

¹ Diseases of the Brain p 218.

² THE LANCET April 2nd 1887.

larged. In the posterior part of the right lobe, beneath the diaphragm, to which the organ was densely adherent, was an old abscess about as large as an orange. This abscess was surrounded by a dense whitish capsule and contained very thick, curdy pus, at its upper part was a small perforation through the diaphragm communicating with the right lung. In the neighbourhood and internal to it the liver substance was breaking down riddled with numerous small abscesses containing a thinner greenish pus. The right lung was adherent to the chest wall and bound down to the diaphragm by dense adhesions. The lower lobe was honeycombed with abscesses containing thick green pus, one of them as large as a pigeon's egg, several others rather smaller, there were also small scattered abscesses in the middle lobe and one near the apex of the upper lobe. The left lung was free from adhesions, the lower lobe contained several small abscesses near the surface and some fairly recent infarcts already breaking down in the centre, one of them about the size of a walnut. The left kidney was in a condition of hydronephrosis evidently of long standing, the upper part of the ureter being much dilated. The right kidney had undergone compensatory hypertrophy, but was healthy in structure. The bladder was small with a hypertrophied wall. No calculi were found. The spleen was enlarged and soft, but contained no abscesses and was free from infarction. There was some clear straw coloured fluid in the peritoneal cavity, but no signs of lymph. The intestine was perfectly healthy. The heart was natural in appearance, with the exception of slight thickening of the mitral valve.

LINCOLN COUNTY HOSPITAL

CASE OF SWALLOWING A RAZOR, GASTROTOMY, DEATH (Under the care of Mr W J CANT)

It would occupy too much of the space at our disposal to enumerate the various foreign substances which have been introduced into the stomach either by accident or by design, and we need mention only those which, from their character, consistence or shape, have necessitated removal by the operation of gastrotomy. The first recorded instance of the operation (which has been a very successful one) is that by Mathias of Brandenburg in 1602, who removed a knife nine inches in length from a man aged thirty nine. Beckhar of Dantzic in 1636 removed a knife from a peasant, which was afterwards preserved in the library at Königsberg. Dr A. C. Bernays removed a knife nine inches and a half long an hour after its ingestion. He refers in his paper to thirteen published accounts of the operation spread over a period of 251 years. Professor Lorota removed several needles from the stomach of a young woman. M. Pollajon removed a steel fork which had been swallowed by a juggler. A magnetic needle suspended by a cord proved useful in establishing the diagnosis. Dr M. D. Witte of Iowa removed a heavily plated four pronged spoon handled fork seven and a half inches in length from the stomach of an insane woman about three months after it had been swallowed. The prongs of the fork had penetrated through the stomach wall into the wall of the abdomen. Dr Radestock operated on a prisoner who had attempted suicide. Twenty three days afterwards the latter had swallowed a rubber cuff, five pieces of glass (each as broad as the finger) and ten pieces of wood (each as long as the finger and as thick as the thumb). It was necessary to open the intestine to remove some of these. After recovery from the first operation he again swallowed similar pieces of wood, which had to be removed from the intestine. Dr M. H. Richardson operated on a lady who had swallowed on three consecutive days a gold pencil-case, a large open safety pin, a steel crochet needle five inches in length and several common pins. The safety pin was the only foreign body found in the stomach and had perforated its coats. One pin and the pencil case were subsequently passed per anum, the other things were not again seen. Perier recorded the case of a man who had swallowed a teaspoon, he proved its presence in the stomach by means of an electric exploring instrument and afterwards removed it by operation. Mr D. Lowson removed a skewer seven inches and a half in length which had penetrated through the prietres, but could not be removed without operation on account of a piece of clay pipe which was attached to it in a transverse direction. We must not omit reference to the performance of this operation for

the removal of masses of hair forming tumours occupying the interior of the stomach, they hardly come under the same category as the cases above enumerated, the formation of the masses being slow and their diagnosis difficult, the results obtained by Knowsley Thornton, Schönborn and John Berg in the three recorded cases were brilliant. In a recent number of THE LANCET we referred to some instances in which gastrotomy was performed to enable foreign bodies impacted in the lower part of the oesophagus to be removed.

Mrs S—, aged sixty eight, was admitted into the Lincoln County Hospital on Tuesday, Dec. 13th, 1892, as she said she had "swallowed a razor" for the purpose of destroying her life. She was in a very depressed state of mind, frequently saying she was "lost" and that "there was no hope for her." She told her tale clearly and Mr Cant felt convinced she had done as she said. The friends, however, were doubtful, they thought she must be under some delusion, especially as they had, so far as they knew, removed everything with which she could destroy herself. The razor case had, however, been found empty. Thirty years ago she had attempted suicide and had been detained for some time in an asylum. It was elicited from her friends that she was a "bleeder." She had been bleeding from the gums and mouth for five or six weeks before her admission into the hospital. On examining the pharynx a slight abrasion was found and from this blood frequently came. The tongue was cracked and sore. This continued so throughout. No symptoms or signs of the razor could at first be detected, so it was decided to watch the case, also to endeavour to determine experimentally the presence of the razor. Dr Belcher, science master to the Science and Art Schools, Lincoln, attempted to do this by means of the compass needle, having first magnetised the razor, this gave no satisfactory result. Mr Cant then ordered her twenty drops of dilute hydrochloric acid. After an hour the stomach was washed out, the washings collected, filtered, evaporated down and redissolved. The presence of iron in a large quantity was shown by the Prussian blue test. At a consultation held on Saturday, Dec. 17th, it was decided to wait for further proof. On Sunday morning (the 18th) the end of the razor could be clearly felt, fixed at the pyloric end of the stomach. On Sunday night she had vomiting and slight pain. It was decided to operate on Monday, the 19th, at 12.30 p.m.

Operation.—No food was given by the mouth for eighteen hours before the operation, the patient being fed on nutrient enemata. Fifteen minutes before the operation one sixth of a grain of morphia was administered subcutaneously and A.C.E. mixture was given by Mr Watkins, the house surgeon, whose unremitting care together with that of the nurses deserve the highest praise. The skin of the abdomen, as also everything that would be likely to come in contact with the wound, was made aseptic. An incision four inches long was made in the middle line above the umbilicus directly down to the peritoneum. This after complete cessation of the bleeding, was opened on a director. The left lobe of the liver came into view and on passing the finger down to the stomach Mr Cant felt the razor lying lengthwise therein, the narrow end in the cardiac region. The finger was passed behind the stomach, which was with some difficulty brought forward into the wound, with the narrow end of the razor projecting in it. A small opening was made into the stomach so that the small end of the razor projected through it. A little of the gastric juice escaped, but none was allowed to get into the abdominal cavity. There was some bleeding from the stomach wound and it was necessary to tie a small artery. The razor, six inches and a half long, was then drawn through the wound. Hot pads of sal alembroth wool were constantly applied to prevent any chilling of the abdominal contents. The stomach wound was then stitched up with a double row of eight fine silk sutures (an ordinary sewing needle being used). This was done by Czerny's method. The stomach was then returned. The abdominal incision was sutured with silk and dressed antiseptically. The patient was then removed to a warm bed and fed with prurient milk enemata every four hours (an egg was added on Dec. 21st to every half pint of milk). These she retained throughout. Nothing whatever was given by the mouth, but it was occasionally sponged out with cold water till 9.30 p.m., when she had a teaspoonful of toast-water. This was repeated occasionally as she had great craving for drink. She remained comfortable and slept at intervals, she was pleased when she heard the razor had been removed and her mental condition improved from that time. She voided urine naturally and thirteen hours

after the operation passed flatus. The bowels were moved naturally the day after the operation. Thirty hours after the operation she vomited one ounce of dark blood, for which four grains of acetate of lead were given in water. One sixth of a grain of morphia was given hypodermically, occasionally, when the patient was restless and for the hæmorrhage. Midday on Dec. 21st the bowels were freely moved and again on Dec. 22nd. Small quantities of blood were vomited at intervals during the day of the 22nd, for which acetate of lead was again administered. Next day (the 23rd) ten grains of gallic acid were ordered for the hæmorrhage and this was repeated three times at intervals. At 8.30 A.M. on Dec. 23rd the bowels were again moved. At 9.30 A.M. the wound was dressed and found to be nearly healed. The bowels became rather relaxed and opium was given at intervals. A teaspoonful of Brand's essence of beef was given every hour by the mouth. There was no further vomiting and at 6 P.M. her condition seemed in every way favourable. She complained of slight pain early in the morning of Dec. 24th and was very weak and faint. She became much worse at 4 A.M., her strength failing. She gradually sank till she died at 8.45 A.M. Her temperature never rose above 99° and the pulse remained at about 92, till near the end.

Necropsy.—On examination an abscess was found in the abdominal wall from which a small amount of pus escaped externally, but there was no connexion with the abdominal cavity. On opening the abdomen the intestines and peritoneum were glistening and normal. A small amount of lymph was thrown out round the wound of the stomach. This caused slight adhesion to the under surface of the liver and the abdominal wall. There was no escape of the stomach contents. The stomach was found empty and natural and the wound closed and healing. All the other organs of the chest and abdomen were healthy except the heart, which showed extensive mitral disease. The cause of death seemed to be exhaustion due to the hæmorrhage she was suffering from previously to swallowing the razor and to the slight hæmorrhage before and after the operation, to the necessary restraint from food to a person of her advanced age, and to the heart complication.

Medical Societies.

EPIDEMIOLOGICAL SOCIETY

A MEETING of this Society was held on Dec. 21st, Dr F J Payne, President, in the chair.

Dr WHITELEGGE read a paper, illustrated by numerous lantern exhibitions of statistical tables, on Epidemics of Measles, Major and Minor. Measles was, he said, a disease of the bacteriology of which we knew nothing and which seemed wholly uninfected by the progress of sanitation. There were everywhere a summer and winter wave the former being the higher, except in London and a few other towns. In London the maxima occurred in June and December, in New York they were later—viz., July and February. Dr Spottiswoode Cameron had observed a high barometer, scanty rainfall and low humidity to accompany a high mortality. The minor epidemics recurred as a rule about every two years in Europe. The intervals in London, Liverpool, Manchester, Nottingham, Bolton &c. had gradually fallen from three to one and a half years. In isolated communities in which the disease died out altogether after an epidemic, there was no trace of periodicity. In the few towns in which notification had been adopted it was seen that contrary to the inference suggested by returns of deaths alone the disease was never entirely absent, and an analysis of the cases in the several districts or wards showed that the progress of an epidemic was rather a smouldering than an explosion. The type of the disease rarely changed during an epidemic and higher mortalities were mostly due to the state of the weather, the supervention of pneumonia or the co-existence of other specifics. The death rate or case mortality, however varied in different places and years from 0 to 10, 20 or even 30 per cent, though these higher mortalities were seldom if ever met with in these countries. They had been observed only under very unfavourable conditions. In all such epidemics the deaths were mainly due not to the disease itself, but to the surroundings, hardships or improper treatment, or to excessive suscep-

tibility of population. We never, however, observed a change of type in the course of an epidemic, whether of intensification (as Dr Thorne Thorne has shown in the case of diphtheria) or of lessening severity, as was familiar in those of scarlet fever and cholera, and as a rule the intensity of measles was inversely as the extent of the epidemic. In London the ratio of the deaths from measles to those from all causes showed the recurrence of biennial epidemics, with alternate longer series of higher and lower mortalities. The Sunderland tables were the most complete and instructive, they showed a biennial recurrence since 1876, with a remarkable rise from the winter of 1884-5, when the maximum case mortality of 29 per cent was reached. In conclusion, Dr Whitelegge said that the difference between major and minor epidemics consisted in the fact that the latter, whether large or small, and over wide or narrow areas, occurred every two or three years, as it were mechanically, while occasionally over wide or narrow areas successive minor epidemics, owing to a progressive intensification of the virus, became more and more virulent, till they constituted what he had called major epidemics. But the keynote of the epidemiology of measles was its stability of type, as instability was characteristic of diphtheria, and this might serve to explain the little variation in its clinical characters, its little tendency to live out of the body or in artificial culture fluids, in water, milk &c., and the want of success attending all attempts to communicate the disease to the lower animals.

The President, Mr Murphy, Dr S Coupland and Dr Willoughby took part in the discussion.

SOCIETY OF MEDICAL OFFICERS OF HEALTH

THIS Society met on Dec. 19th, 1892, Mr Shurley Murphy, President, in the chair.

Dr THURSFIELD read a paper on Deaths of Mothers in Childbed considered as Preventable Mortality. These deaths included two distinct classes (1) Those from "puerperal fever" and (2) those due to accidents of childbirth, some of which were perhaps inevitable, but the greater number were owing to the want of proper obstetric attention and skill. The death rates per 10,000 births in England and Wales for each quinquennium from 1851 to 1890 were. Total deaths, 49, 48, 46, 54, 39, 49, 45, puerperal fever, 15, 15, 16, 15, 24, 17, 28, 24, accidents of childbed, 34, 30, 32, 31, 20, 22, 21, 21. For the year 1890 they were respectively 48, 6, 22, 3 and 26, 4. The apparent increase in those from puerperal fever since 1881 was possibly due to the inquiries instituted into suspicious returns of peritonitis and pyæmia, but the fact remained that 50 per cent of the deaths in childbed were from this cause and therefore preventable. There was, however, in different districts a remarkable difference, not only in the total mortality, but in the relative proportion of those from the two causes—lowest in London and the home counties and highest in the thirty peopled agricultural and mining districts, with a preponderance of puerperal fever in the urban and of accidents in the rural populations, notwithstanding the prevalence in towns of rickets—a frequent cause of difficult parturition. As typical populations he took London, Manchester, the North Wales and the south western registration districts, in which the mean death rates per 10,000 births for the years 1881-90 were—

England and Wales	47.3	25.9	--	21.3
London	29.1	14.4	--	15.3
Manchester	52.0	31.3	--	20.0
N. Wales Counties	67.3	32.6	--	24.7
S.W. Group of Counties	43.6	20.5	--	22.2

The excessive mortality from accidents in the rural districts, where the total deaths are below the average, was noteworthy and explicable only by the want of skilled attendance. "Puerperal fever" was not a specific disease *in generis*, but a collective designation of septicæmia, pyæmia, erysipelas &c., occurring during the puerperal process, the septic material being derived from external sources, from other cases or from auto-infection. It was virulent and persistent in the extreme, but the analogy of surgical septicæmia justified us in believing it to be wholly preventable, or nearly so. What he wished to emphasize was the necessity for the instruction of nurses and midwives in the antiseptic treatment of all cases and in the recognition of those which called for skilled medical assistance.

Dr WIGHTWICK maintained that all post mortem examinations should be made by special pathologists

Dr SYKES was inclined to attribute most cases occurring among the poor to the neglect of disinfection of bedding after infectious diseases, especially typhoid fever

Dr WILLOUGHBY, while strongly insisting on the septic origin of all puerperal fever, which he would have called by its proper name of puerperal septicæmia, agreed with Dr Sykes as to the necessity for disinfection

On the motion of Dr GIBSON, seconded by Dr WOODFORD, it was resolved that the Society should confer with the Obstetrical Society on the extension of instruction in midwifery

Dr GARRETT then read a paper on the "Spontaneous Pollution of Water originally Pure in Storage Reservoirs." The water supply of Cheltenham was, he said, drawn from two sources the river Chelt, and from openings in the oolite of the Cotswold hills. The latter was moderately hard (12°—16°), but of extraordinary purity, yielding only 0.04 per million of albuminoid ammonia and absorbing no more oxygen than ordinary distilled water. One of the reservoirs was covered, the other two were open. Complaints having been made that the town water had a "fishy taste" suspicion fell on the Chelt as the less pure, but it was soon ascertained that the fault lay with the open reservoirs on Hewlett's Hill and that the cause was the growth of Chara, which was not found in the covered reservoir, since like all plants forming chlorophyll it needed light. Dr Garrett exhibited specimens of the Chara. It grew luxuriantly in the early summer but in autumn broke up to a great extent, rendering the water turbid with its disintegrated and decomposing tissues which swarmed with organisms of every kind and emitted odours, faecal and other. Dr FURROW of Harward had referred these odours to *Lyngbya Beggiatonia* and *Nostoc* respectively, and Dr ADAMS of Bolton ascribed the stale fish smell to *Converva Bombycina*, but this last was not found at Cheltenham, where the *Lyngbya* abounded. The Chara softened the water remarkably. Peaty waters containing vegetable matter were acid, but this was slightly alkaline. Attempts to exterminate the plant were unsuccessful, and Dr Garrett had advised the use of the covered reservoir only, and that when it was necessary to have recourse to the others, that the water should not be allowed to remain in them any length of time.—Drs BOSTOCK, HILL, THRESH, WILLOUGHBY and others took part in the discussion.

PROVINCIAL MEDICAL SOCIETIES

BRADFORD MEDICO CHIRURGICAL SOCIETY.—A clinical meeting was held on Dec 20th 1892, Dr Bell, President, in the chair. Dr S. LODGE showed a young woman aged twenty-four suffering from Chronic Oesophagitis. For four years she had suffered pain on swallowing solids. The tenderest part appeared to be on a level with the lower third of the sternum. There was an excessive appetite and pyrosis, but no other evidence of disease. She was relieved by restriction to liquids and the exhibition occasionally of a little bismuth. Dr Lodge also brought forward a case in which a mastoid operation was performed. There had been epistaxis with signs of meningitis, including fever, slow pulse and double optic neuritis. The mastoid cells being opened the patient steadily improved and the neuritis and other signs disappeared. In another case shown with Facial Palsy Dr Lodge had opened the mastoid, scraped out some dead bone and the paralysis disappeared.—Dr MAJOR showed a patient probably affected by lead. The lower branches of the facial nerve were paralysed, whilst the upper were free. The paralysed palate responded readily to direct stimulation. Dr Major also showed two patients, both suffering from early General Paralysis. There was no syphilitic history obtainable and neither had grandiose delusions. He strongly advocated surgical treatment of all cases with much headache, as improvement was to be expected.—Dr BELL showed a case of Primary Shrinking of the Conjunctival Sac until the eye was closed in and the eyeball immovably fixed between the closed and adherent lids, he had shown a similar case to the Society sixteen years ago. A few others had been reported since especially in connexion with pemphigus, but in neither of his cases had there been this association. A case of Primary Calcareous Degeneration of the Cornea was also shown by Dr Bell, a few such had lately been reported. It began on the upper part of the cornea, just under

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Dr GARRETT then read a paper on the "Spontaneous Pollution of Water originally Pure in Storage Reservoirs." The water supply of Cheltenham was, he said, drawn from two sources the river Chelt, and from openings in the oolite of the Cotswold hills. The latter was moderately hard (12°—16°), but of extraordinary purity, yielding only 0.04 per million of albuminoid ammonia and absorbing no more oxygen than ordinary distilled water. One of the reservoirs was covered, the other two were open. Complaints having been made that the town water had a "fishy taste" suspicion fell on the Chelt as the less pure, but it was soon ascertained that the fault lay with the open reservoirs on Hewlett's Hill and that the cause was the growth of Chara which was not found in the covered reservoir, since like all plants forming chlorophyll it needed light. Dr Garrett exhibited specimens of the Chara. It grew luxuriantly in the early summer, but in autumn broke up to a great extent, rendering the water turbid with its disintegrated and decomposing tissues, which swarmed with organisms of every kind and emitted odours, fecal and other. Dr Farrow of Harvard had referred these odours to Lyngbya Beggartii and Nostoc respectively, and Dr Adams of Bolton ascribed the stale fish smell to Conerva Bombycina, but this last was not found at Cheltenham, where the Lyngbya abounded. The Chara softened the water remarkably. Penty waters containing vegetable matter were acid, but this was slightly alkaline. Attempts to exterminate the plant were unsuccessful, and Dr Garrett had advised the use of the covered reservoir only, and that when it was necessary to have recourse to the others, that the water should not be allowed to remain in them any length of time.—Drs Bostock, Hill, Thresh, Willoughby and others took part in the discussion

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read a paper on Puerperal Fever. He said the theory that puerperal fever is always caused by direct infection by attendants and is always preventable by antiseptic precautions was not adequate to explain all cases. The genital tract cannot be kept aseptic with the same certainty as a surgical wound. Preventive treatment consisted in the strict observance of antiseptic rules, details of which were given. In addition to suitable diet and medication the following local treatment was adapted to the developed disease: (1) Syringing, (2) swabbing out the uterus with carbolic acid, (3) combined curetting and swabbing. Where the tubes or ovaries were the seat of suppuration they should be removed by operation.—Dr FFXENELL read notes of a case where the patient was exposed during the puerperal period to infection by scarlet fever in concentrated form and recovered without any febrile symptoms.—Dr ELDER said puerperal fever had been known to be carried by attendants and nurses for the last hundred years and modern science and practice quite bore out this view. He deprecated the common practice of making the obstetric bag the receptacle for catheters and other instruments of doubtful purity. He pointed out the diminished mortality in lying in hospitals following on careful attention to hygienic rules and the use of antiseptics.—Dr MICHIE thought puerperal fever was often due to local inflammatory conditions, such as metritis and salpingitis, which in some cases existed before labour. In such cases laparotomy was the remedy.—Dr HANDFORD thought autogenetic cases were due to the action of germs, the source sometimes being undiscoverable. Laparotomy might sometimes be required, but he thought a great many cases recovered in the long run when left alone.—Mr NESBITT remarked that in his district puerperal fever was a notifiable disease.—Specimens Dr MICHIE showed the following removed by operation with successful results: Two Ovarian Tumours with twisted Pedicles, a Ruptured Ovarian Cyst, Commencing Cystic Disease of Ovary, a small Paroöphoric Cyst, a small Parovarian Cyst.

PLYMOUTH MEDICAL SOCIETY.—Mr GEORGE JACKSON read a paper before this Society on Dec 21st, 1892, on the Medical Defence Societies. After pointing out the dangers to which medical men were exposed by false accusations, blackmailing &c. he showed the necessity of everyone in active practice joining such a society, which would protect him and if necessary defend him in the law courts from such accusations. The following resolutions were carried—viz, (1) that in the opinion of this meeting it is very desirable that a branch of a medical defence society be formed, and (2) that a branch of the London and Counties Medical Protection Society, Limited, be formed for this district. A small committee was appointed to carry out the details and to call shortly a general meeting of the practitioners of the neighbourhood to inaugurate a branch of the London and Counties Medical Protection Society.

ROYAL ACADEMY OF MEDICINE IN IRELAND

PATHOLOGICAL SECTION

A MEETING of the Section of Pathology was held on Dec 2nd, Dr Frazer in the chair.

Diffuse Cerebro-spinal Sclerosis.—The PRESIDENT read a paper on a case of this affection that had occurred under his care at the Mater Misericordiae Hospital. Most extensive lesions were found post mortem by Dr M Weeney, partaking of the character of disseminated sclerosis and of chronic myelitis. Dr M Weeney then described at length the lesions found in the part of the central nervous system that had been examined—viz. from the lower end of the cord to the upper part of the medulla, and demonstrated a large series of sections prepared mostly by Weigert's hematoxylin method.—Dr FRAZER said that Dr M Weeney's paper was to be considered as a report of half the case only and that the account of the remainder was to be expected at a future meeting.

Adenoma of the Kidney.—Mr CONOLLY NORMAN read a paper on adenoma of the kidney and exhibited a specimen of that affection. Both the kidneys were curiatic the left extremely so. Mr Norman believed that the most satisfactory explanation was that of Sabourin, who held that curiatic material in the proliferated epithelium of the convoluted tubule.—The PRESIDENT asked Mr Norman if the tumour

might not arise from some of those cystic foci which are so commonly met with in cases of contracted kidney, and also what was the condition of the heart, and of the left ventricle in particular.—Mr NORMAN, in reply, said that in one of the "granulations" of Bright he found a number of dilated tubes the epithelium of which appeared to be proliferating. The patient's heart was hypertrophied as a whole and the left ventricle in particular.

SURGICAL SECTION

A meeting of the Surgical Section was held on Dec. 9th, Dr E Hamilton, President, in the chair.

Two Cases of Disease of Mastoid and Petrous Portions of Temporal Bone in connexion with Disease of the Ear.—Mr DOYLE brought forward these two cases. In the first case chronic suppurative disease of the middle ear and the mastoid cells had eaten a circular opening through the right temporal bone, it communicated with the middle fossa of the cranium, producing softening and abrasion of the under surface of the temporo-sphenoidal lobe of the brain. The second case was operated on for caries and mastoid periostitis in September last, and is still under treatment and progressing favourably.

Cancer of the Rectum.—Dr BALL read in abstract a communication on cancer of the rectum. Dealing with the pathology of the subject, Professor SCOTT gave a lantern display of micro photographs, chiefly from Dr Ball's cases, illustrating the disease. Dealing with the diagnosis Dr BALL laid great stress on the importance of early recognition and on the fact that many cases were treated as chronic dysentery where a digital examination would have shown that cancer existed. Having discussed the limits of an excision of the disease he presented a table showing the results of excision in nine cases in his practice. Regarding colotomy the opinion was expressed that in a large proportion of cases of cancer unsuitable for excision obstruction never became a prominent symptom, and that these cases were much better left without operation. Colotomy was, however clearly indicated where obstruction was commencing, colotomy should be had recourse to early, before any of the secondary changes due to obstruction were marked.—The PRESIDENT endorsed the statement of Dr Ball that in many cases diseases of the rectum are allowed to go on for a very long time without being satisfactorily diagnosed.

Dr Thomson, Dr Franks, Dr Thornley Stoker, Mr Myles Mr Tobin, Dr Bennett and Dr Brooks took part in the very interesting discussion which followed.

OBSTETRICAL SECTION

A meeting of the Obstetrical Section was held on Nov 25th, Dr Horne, President, in the chair.—Mr JOHN McCULLAGH and Mr MCARDLE exhibited cases of Spina Bifida, one treated by iodo-glycerine, the other cured spontaneously.—Dr SMITH showed a specimen of Hydrops Follicularum, a large Dermoid Cyst, a Multilocular Ovarian Tumour, a Sloughing Fibromatous Polypus and a Parovarian Cyst, all removed by operation and all the patients recovered.—The PRESIDENT exhibited an Ovarian Tumour, removed on account of axial rotation, with peritonitic symptoms. The patient recovered. Mr McArdle and Dr Smyly took part in the discussion.—Dr FLINN exhibited a Parovarian Cyst removed by operation, the patient recovered.—Dr E HASTINGS TWEEDY showed a Blighted Ovary, which escaped six hours after delivery at term.—Dr KIDD inquired whether the foetal placenta was connected with the placenta proper.—Dr TWEEDY replied that he had not found any connexion.—Mr McArdle exhibited a specimen of the Labia Majora removed for perforating ulcer. There was glandular infection, and the President, Mr Smith, Mr Tobin, Dr Smyly and Dr Parsons joined in the discussion.—Mr MCARDLE next exhibited a Renal Cyst which simulated ovarian tumour. The patient did well.—Mr TOBIN bore witness to the great size of the tumour.—Mr MCARDLE then gave details of a case in which Intruterine Arrest of Development had taken place he contended, as a result of injury to the mother by railway accident.—Dr McCullagh, Dr Smith, Dr Smyly, and Mr Broomfield joined in the discussion. The opinion of the meeting as to the etiology of the case was divided.—Mr MCARDLE gave details of a case in which Intruterine Arrest of Development occurred as a result of injuries sustained by the mother in a railway disaster. At birth it was found that the spinal canal was incomplete, except at the middle dorsal region. The head also showed an arrest of development. The right hip-joint was also undeveloped. It seemed as if the injury to the mother had checked growth,

leaving the parts described in the condition of development arrived at before the injury—Mr McCULLAGH said the case of spina bifida he had shown that evening was ascribed by the mother to a blow on the back between the third and fourth months of pregnancy—Dr SMITH said he believed that nervous impressions sometimes produced these strange deformities—Dr SMYLY did not believe in it at all, the case was probably a remarkable coincidence and nothing more—Mr BROOMFIELD said there were other organs that were equally tender in this stage of fetal life and he failed to see why disease should concentrate itself altogether on the laminae of the vertebrae—Mr MCARDLE said the object he had in bringing the case forward was to elicit the opinions of his *confères* on the subject

Reviews and Notices of Books.

The Life and Works of John Arbuthnot, M.D., Fellow of the Royal College of Physicians. By GEORGE A. AITKEN. Oxford: The Clarendon Press, 1892.

ENGLISH literature is not without its "opprobria," amongst the most flagrant of which is the want of any adequate biography of Arthur Jonston, M.D., physician to King Charles I and the worthy rival as a Latin poet of George Buchanan, whose far famed version of the *Psalms* he is believed by many scholars to have equalled, if not surpassed. Another of "medicine's forgotten worthies" was Dr John Arbuthnot, in Samuel Johnson's opinion "the first man" among the wits of Queen Anne's reign, "an excellent physician" of "deep learning" and of "much humour." The "opprobrium" in Arbuthnot's case has now we are glad to say, been for ever wiped out by a compatriot, on whose narrative of his life and edition of his works we shall have something to say presently, but in Arthur Jonston's case the "opprobrium" still stands, although, if report speaks truly, it will not long be a blemish on our literary escutcheon, a monograph on that able consultant and exquisite Latinist and poet having been promised, also by a compatriot eminently qualified for the task—Sir William Duguid Geddes, Principal of the University of Aberdeen.

Arbuthnot was a typical specimen of the young Scottish cadet—"the penniless lad with a long pedigree"—of whom Thackeray speaks admiringly in his sketch of Smollett—who came up to the great world, like Dugald Dalgetty with the "learning acquired at the Manschal College of Aberdeen," with his "gentle blood and designation together with a pair of stalwarth arms and legs conform," to push his way as "a cavalier of fortune." Whether, indeed, Aberdeen can claim Arbuthnot as an alumnus does not amount to more than a "moral certainty," but we know that he had acquired mathematics enough to begin life as a teacher of the same in London and to write a book, "Of the Laws of Chance" in which his proficiency in the science and his general high culture are manifest. After this we find him, on Oct. 6th, 1694, two years subsequently to the publication of that book, entering University College, Oxford, as Socio Commensalis or Fellow Commoner—a fact unearthed for the first time by his biographer—and acting there as companion and private tutor to a young gentleman of fortune. The next glimpse we catch of him—for glimpses are nearly all that his most patient and circumspect biographer can give us of his early years—is at St. Andrews, where he was admitted to an *ad eundem* degree in medicine in September, 1696 at the age of twenty-nine, his "thesis medica" being "De Secretione Animi." Where he received the professional education and the degree that qualified him for the St. Andrews' diploma his biographer fails to tell us, but that his medical knowledge was sound and his classical learning considerable we may infer from what George Hamilton Principal of St. Andrews, wrote three days after his graduation, to Dr Charlett. The bearer, Dr Arbuthnot, is a gentleman of

great merit, that has acquit himself extraordinarily well both in his private and public tryalls in solemn meetings of several Professors and Doctors of Medicine towards his promotion." His headquarters were now in London, where we find him engaged in scientific and classical authorship as a foil to the professional practice in which he had come to the front. Elected a Fellow of the Royal Society on St. Andrew's Day, 1704, he was next year, on Oct. 30th, appointed Physician Extraordinary to Queen Anne by Her Majesty's special command "in consideration of his good and successful services perform'd as Physician to His Royal Highnesse," Prince George of Denmark, who, it appears, "taken suddenly at Epsom, had been successfully treated by Arbuthnot, who happened to be on the spot and who was always afterwards employed by the Prince as his physician." His biographer might have added that the old manor house at Easthill, Windsor, built by Prince George for the Queen, was often visited by Dr Arbuthnot, who attended Her Majesty's children there and caused (so says local tradition) the well known iron stanchions to be placed on the nursery windows as a safeguard against their falling out on to the lawn below. This picturesque house, it seems, is already doomed to disappear before the extension of London. But to return. Arbuthnot was now one of the most considerable men in town, a scholar of scholars, a physician of physicians, the wittiest of the witty and a prime mover of Jacobite policy in the camrilla of which Bolingbroke and Atterbury were ruling spirits. All this part of his career is admirably set forth by his biographer, whose profound knowledge of the literature and life of Queen Anne's reign serves him in enviable stead. The doctor's familiarity with Pope, Swift and Gay is illustrated by skilful selections from the correspondence of these with other contemporary wits and public men, and his share in the political satire of the day is defined and apportioned with as near an approximation to certainty as existing documents will admit. We are glad to see that his biographer still credits him with having "been the first to apply the name John Bull to the English people" and to have drawn "the character which has ever since been accepted as a type of this honest plain dealing fellow, choleric, bold and of a very inconstant temper." This priority would of itself suffice to secure Arbuthnot against oblivion, but his biographer does not fail to adduce his many other more solid claims to the consideration of posterity. He has given us, in short, a masterly, full length portrait of the most learned and most lovable professional man of Queen Anne's and of the following reign, making us understand with all the detail that was accessible the physician "who knew his art but not his trade," the prologiser of lives like Pope's, the wise counsellor in social and professional crises, the friend and the promoter of all science, to which indeed he was himself among the most scholarly and independent contributors.

Having admitted the conspicuous success of the biography we may point out a few shortcomings to be made good in a subsequent edition. We pass over the failure of the author to note from the *Gentleman's Magazine* such curious facts as Arbuthnot's public encounter with the card playing French dog which beat the doctor at quadrille—a specimen of social manners characteristic of the time. We say nothing of his error in making Matthew Prior an Oxford man, though that, in his undoubted familiarity with "the Augustan age of English literature," is not a little surprising. But we think his otherwise complete bibliography unaccountably defective in omitting all mention of Dr B. W. Richardson's memoir of "John Arbuthnot, M.D., F.R.S., the Medical Scholar," published in the *Asclepiad* for the second quarter of 1887. Much that is most valuable in his biography was anticipated in that memorable sketch, to which the reader has still to be referred for an adequate estimate of Arbuthnot's undoubted pre-eminence as a scientific consultant over nearly all his con-

temporaries "Respiration is the second digestion" was one of Arbuthnot's generalisations which of itself, as Dr Richardson eloquently points out, would stamp him as a profound observer of nature, far ahead of his time.

For the remainder of his biographer's work, the carefully edited reprint of Arbuthnot's writings, genuine and doubtful, we have nothing but unqualified praise. These may now be read without the torture inseparable from the loose spelling, the badly accented Greek, the slovenly references, the thousand and one *maculae* which make eighteenth century publications so often an eyesore and a penance. Their intrinsic merits, which even such typographical *deshabille* could never impair, are as fresh to-day as when they first saw the light, and if the reader wants exhilaration of the most genuine and hearty kind, the outcome of a humour second only to that of Cervantes, we could give him no better advice than that so often heard in Queen Anne's day, "Send for Dr Arbuthnot!"

Horses in Accident and Disease By J. ROALFE COX, F.R.C.V.S. Edinburgh David Douglas. 1892.

WHAT might be termed the "physiognomy" of suffering is perhaps better defined in some of the domestic animals than it is in man, as in them there is much less mind and possibly no imagination to confuse or mask the expression of those sensations of discomfort, pain or agony which they experience when labouring under the effects of disease or accident. There is certainly no malingering, no fictitious appearances and no hysterical tendencies such as so often baffle and mislead the physician and surgeon, and though the veterinarian is exposed to the great disadvantage of having to minister to dumb patients who cannot tell him in words what their sensations are, yet, on the other hand and for the same reason, they cannot beguile him by a wrong description or conceal their condition by false statements. To the experienced observer of animals, one who has a natural sympathy with them, they manifest their feelings and desires in a manner which rarely varies to any extent and show in an unmistakable way the character, seat and intensity of the maladies or injuries from which they may be suffering. Nearly every disease has its own special features or symptoms, which reveal its presence and render its diagnosis a matter of little difficulty to those who have been trained and accustomed to deal with disabled animals.

Of all the creatures which come under the observation of the veterinary surgeon it might be asserted that the horse is the one which exhibits the most expression in disease—at least, it is the one which, because of its greater utility and monetary value, has been most closely studied in this respect. Its facial expression, its attitudes and its movements tell their story and inform the observer as unerringly as if the animal were endowed with speech, but this only to the observer who understands and can interpret them. Those who have attempted to describe the symptoms presented by suffering animals have always found great difficulty in doing so satisfactorily, because of the impossibility of grouping them in such a fashion as will present a faithful picture to the mind's eye and enable an untutored person to recognise the ailment treated of, and therefore in some works on diseases of animals attempts have been made to supplement the verbal descriptions by drawings representing the positions and attitudes assumed but at best these have been little better than caricatures. To aid the veterinary student and horse owner in distinguishing between different maladies and mishaps Mr Cox, an able veterinary surgeon of long experience, has published a book in which verbal description is made altogether subordinate to the true delineation of twenty-eight cases of particular diseases and accidents frequently met with. The figures if somewhat roughly are yet strikingly portrayed and in addi-

tion to being fairly well drawn, convey at a glance a capital series of object lessons in clinical veterinary medicine and surgery which cannot fail to be instructive to those for whom they were produced. The sketches of horses suffering from that most painful and serious foot disease, laminitis, from congestion of the lungs, tumour in the brain and luxation of the patella, are excellent for the instruction they afford, but perhaps the most telling is the picture of the horse affected with tetanus, in which we see the characteristic attitude of the limbs, head and tail, but especially the face with its *risus sardonius* and the eye with the *membrana nictitans* protruding over it, giving to the disease such a strange and distressing character in this animal. The book is a novelty in its way, and does Mr Cox much credit as an artist and close observer of equine life.

Treatise on the Diseases of Women for the Use of Students and Practitioners By ALEXANDER J. C. SKENE, M.D. Professor of Gynaecology in the Long Island College Hospital, Brooklyn, New York. Second Edition, Revised and Enlarged. London H. K. Lewis 1892.

ALTHOUGH the number of pages in this edition is almost the same as in the first, the author has managed to incorporate much additional matter by considerably enlarging the size of the page. The new chapters deal with ectopic gestation, diseases and injuries of the ureters, vesical hernia and its surgical treatment, moreover, the author has taken the opportunity of stating his most recent views on laparotomy, ovaritis and injuries of the cervix and pelvic floor.

As the book aims at presenting "the fully matured and essential facts in the science and art of gynaecology," and is intended as a text-book for students, we should not have expected to find such a passage as the following: "The effect of flexion on the uterine canal is to produce constriction or occlusion of the internal os. The stricture thus formed gives rise to accumulation of the secretions of the uterine cavity and to partial retention of the menstrual products. The circulation in the uterus, as will be readily understood, is interfered with. The obstruction tends to keep up congestion, and this may eventually lead to oedema and a predisposition to endometritis and pelvic peritonitis. It would scarcely be possible to find two points as to which there has been more dispute than the relation of uterine flexion, on the one hand, to stricture of the internal os and, on the other, to the circulation through the uterus. The author does not seem to be acquainted with Dr John Williams's well known and convincing paper on the latter of these two questions. So far from the statements in the passage we have quoted being generally accepted as facts, we may say at once that the best English authorities hold that flexion does *not* cause obstruction at the internal os and that it has no effect whatever in producing a state of venous congestion in the uterus.

Again, it seems to us that Dr Skene makes too little allowance for the individual variations in form that should be classed within the limits of normal. For example as regards the projection of the vaginal portion of the cervix if it projects too much we find an operation is recommended to shorten it, and if it projects too little an operation is to be undertaken to lengthen it. Surely it would be as reasonable to set up an exact pattern, for instance for the nose and to operate on all noses that differed from the pattern ideal. We observe that Fig. 64 which inaccurately represented the normal relation of the uterus to the bladder in the first edition, has now been corrected. It is not easy to understand why, in a book consisting of 968 pages and containing 257 engravings the whole subject of malposition of the uterus is dismissed in twenty-three pages and with only one illustration, borrowed from Winchell. It may be doubted whether the author has any personal experience of the supra-vaginal amputation of the cervix, for in the former edition

scribing it we find "The next step is to cut with knife or scissors above the lateral fornices, taking care to avoid wounding the branches of the uterine artery. Thus we see great care must be taken in the preliminary clearing of the cervix", whereas it is of course impossible to free the cervix laterally without cutting branches of the uterine artery, and the consequences must be provided against either by ligatures or pressure forceps. The vagueness of description as to this step of the operation may account for Dr Skene's preference for the galvano cautery rather than the knife, because of "the loss of blood and the uncertainty of manipulation from the hæmorrhage" attending the use of the latter.

About one-third of the book is devoted to a description of "Diseases of the Urinary Organs." The author refers somewhat contemptuously to English literature as containing little information on this subject, we think, however, we could supply a fairly long list of references as to where such information may be obtained. There are numerous illustrative cases scattered throughout the book, amongst the most interesting are those giving a clinical account of some of Dr Keith's hysterectomies for fibroids. We have been unable to find any account of so common an affection as mucous polypus of the uterus, at all events, there is no mention of it in the index. The American system of spelling is of course that adopted throughout the book, we are not quite sure, however, whether or not "sirup" is good American for "syrup."

Les Tumeurs de la Vessie Par J ALBARRAN, Chef de Clinique des Maladies des Voies Urinaires à la Faculté de Médecine de Paris (Hôpital Necker). Préface par le Professeur F GUYON. 73 Figures et 9 Planches. Paris G Steinheil 1892.

THE clinical importance of a careful study of tumours of the bladder has acquired an altogether new importance since they have been brought within the domain of operative surgery. Within the last ten years many valuable works devoted to this subject have appeared, and much has been done to advance our knowledge of the pathology of these tumours and our means of precise diagnosis and satisfactory treatment. No name is more honourably associated with this work than that of Professor Guyon, and any treatise introduced to the profession by a preface from his pen demands attentive study. The book before us is probably the most valuable contribution to this branch of surgery that has yet been made. Dr Albarran is an accomplished histologist and pathologist, and his association with M Guyon for many years has furnished him with a very extensive clinical experience. He has already made more than one valuable contribution to the literature of the surgery of the urinary organs and he has amply demonstrated his fitness to discuss with authority such an important subject as tumours of the bladder. The work opens with a chapter dealing with the history of the subject, and then follows a capital description of the normal mucous membrane of the bladder as shown by the author's own examinations. He affirms the presence of a rich lymphatic network in the submucosa—particularly rich in the trigone—and figures it. The classification of the tumours met with is very elaborate—too minute and particular, perhaps, for clinical purposes. The morbid anatomy is well described, as are also the clinical course and the diagnosis. Dr Albarran lays stress upon the fact that naked eye appearances of a tumour are no safe test of its structure, and also that its minute structure is no criterion of its clinical history. While none of the infiltrating tumours examined by him were benign in character, fully half the pedunculated epithelial tumours were malignant in nature. He points out how long a history some malignant tumours have, and is of opinion that a benign tumour may become malignant and that a cancerous growth may develop in an innocent tumour. The question of treatment is very

fully discussed, and the numerous operations that have been devised for these diseases are carefully described and appraised. While condemning some of the more extensive and hazardous, he advocates a more free and more careful removal of even the simplest pedunculated growths than is usually practised here. Preferring in all cases the supra-pubic route, he has abandoned the forceps recommended by Thompson, and cuts away the tumour with the knife and scissors, being careful to remove all the mucous membrane from which it grows, and in many cases the muscular wall of the bladder itself, and then sutures the edges of this wound in the bladder. He describes and figures some good examples of secondary infection of the bladder by contact with the tumour, and demonstrates also, what has been denied, that secondary deposits may occur in the pelvic lymphatic glands and also in other internal organs. The work closes with a capital table of cases—first those seen and examined by himself, then those recorded by other surgeons. Dr Albarran is very thoroughly acquainted with the literature of the subject and very numerous references to the writings of others are given. He is to be most heartily congratulated on the result of his labours, for he has produced a most admirable and valuable treatise, which is the best work of reference on this subject that has yet been published.

Medical Electricity. A Practical Handbook for Students and Practitioners. By W E STEVENSON, M.D., and H LEWIS JONES, M.A., M.D. London H K Lewis, 1892.

By the early death of Dr Stevenson the science and art of the application of electricity to the diagnosis and treatment of disease lost a foremost exponent, one who had thoroughly mastered the intricacies of the subject and whose writings upon it had already attracted much attention. The present monograph, intended to be, as it will no doubt become, a standard text-book, was planned and commenced by him, and the task of collating the fragmentary portions which he left, and of supplying all that remained to give the work completeness, fell to Dr Lewis Jones. This has involved the contribution by the latter of the major part of the volume, and the manner in which his duty has been performed is worthy of all praise. Unlike many treatises on the subject a large amount of space is devoted to the exposition of the various forms of electricity and its apparatus, and herein we think the authors have done wisely. It is obvious that the student of electricity in relation to physiology and disease ought to start with a clear comprehension of the physical science itself, and it is well not to take for granted a knowledge which may be at the best vague and imperfect, whilst nothing but good can come of a fresh consideration of a branch of physics which formed a part of his elementary education. These matters, too, are treated in a clear and concise manner—statical electricity being first described and then electricity in motion, with valuable explanations of laws and definitions. These chapters are followed by one on the apparatus of statical electricity and the mode of its application, and that by others upon galvanic batteries and accessory apparatus. The preference is given for medical purposes to the Leclanché cell and useful hints are given as to the choice and care of batteries. Indeed the practical character of the book is one of its main and most valuable features. The chapter upon physiology is full of interest, although it demonstrates the comparative obscurity which veils the question of the action of the electric current upon the tissues generally, apart from its special effect on nerve and muscle. There is no doubt that this imperfection in knowledge has done much to propagate erroneous ideas concerning the effects of electrical treatment, and the lack of scientific explanation has given unbounded opportunity for surmise and conjecture. The labours of Professor

Erb have done more than any other work to throw light upon the value and meaning of electricity as an aid to diagnosis, and accordingly in the chapter devoted to this latter subject Erb's methods and conclusions are largely drawn upon. A short chapter on general therapeutics, in which we are glad to note the deprecation of electrical treatment being carried on by the patient himself, and the utility of so-called "electric belts," is followed by one on the electric bath which Dr Stevenson described in the columns of THE LANCET. The precise value of this mode of application of electricity can hardly as yet be estimated, but it is claimed to act beneficially as a tonic, and therefore to be of use in many conditions of purely functional debility, as well as in certain organic states. The treatment of nervous diseases and of other conditions in which galvanism or faradism can be found useful is dealt with more from the published experiences of other writers than from those of the authors. The work concludes with chapters on electrolysis, the galvanic cautery &c. We think the book to be sound in its teaching and practical in execution, and believe it will meet with merited success.

LIBRARY TABLE

The Extra Pharmacopœia By WILLIAM MARTINDALE, F.C.S., and W. WYNN WESTCOTT, M.B. Lond. Seventh Edition. London H. K. Lewis 1892.—Almost before there has been time for a due appreciation of the excellences of the sixth edition of Martindale's "Extra Pharmacopœia" the indefatigable compilers in presenting a seventh edition prove once more the great strides which are being made in pharmacy. Fortunately as the name indicates, a large proportion of the material in this handy book is merely on trial, and will doubtless be condensed or deleted in later editions, otherwise the crowd of new remedies would appear to be overwhelming. Still, new drugs are constantly being recommended, and the advantages of this accumulation of new facts and suggestions are sufficiently appreciated by the medical profession. The new edition is in every respect as reliable as before, and it contains useful references to all newer remedies, indicating not only the most convenient way in which they may be employed, but also the results which have been given in various forms of disease in the hands of different observers. The book is one to which we can extend a cordial welcome and for which a large sphere of usefulness may be predicted.

Diagnosis by the Urine By ALLARD NUMMINGER, M.D. Philadelphia P. Blakiston, Son and Co 1892.—This little work forms one of a large class of manuals for which there always seems to be a demand. It covers nearly all the ground essential to the determination of the characters and composition of the urine for clinical purposes, and is therefore of some utility. The author gives some of his own experiences which will be appreciated—as, for instance, his statement that when the daily quantity of urea falls habitually below twenty grammes in an adult of active pursuits and well nourished body disease of the liver or kidney may be suspected, and of the detection of small quantities of albumen by suddenly plunging the test-tube into cold water after boiling the urine with acid. He only describes the hypobromite method of urea-estimation, advising the urometer devised by Dr Doremus, and does not mention the fermentation test for sugar in the urine. We note also the absence of any reference to Ehrlich's reaction, or to the significance of excess of indica in the urine. The book, too, which is well illustrated, is capable of some expansion without detracting from its utility.

Essentials of Diagnosis By SOLOMON SOLIS COHEN, M.D., and AUGUSTUS A. ESHNER, M.D. Philadelphia W. B. Sanders 1892.—In this work we find the subject of medical diagnosis treated in a novel way—namely, by means of "question and answer." The plan is ingenious and may

be helpful to the student, but we confess we should not care to see it too much extended. The "answers," which, of course, form the bulk of the text, are ample and sufficient, the leading points being clearly and concisely enunciated. After all the plan adopted is only another way of subdividing subjects, a slight departure from the orthodox method of chapters and sections, and the real merit of the book lies in the accuracy of its text.

Eye strain, commonly called Asthenopia By ERNEST CLARKE, M.D. Pp 168, with twenty-two illustrations. London J. & A. Churchill. 1892.—In this little volume Dr Ernest Clarke, without offering to the profession anything absolutely new, has placed the well known features of excessive work of the eyes, especially in the case of patients who are affected with some error of refraction or who suffer from muscular or nervous debility, in a clear and easily intelligible form. The treatise is an expansion of a paper read before the West Kent Medico-Chirurgical Society. Asthenopia, proceeding from overwork and fatigue of the retina, was recognised though not thoroughly understood by Taylor in 1766 and by Scarpa and Beer at the beginning of the present century, whilst Mackenzie dimly perceived that it was sometimes in part dependent upon the exhaustion or imperfect action of the extrinsic muscles of the eye, but the etiology of the affection was not cleared up until the whole subject of refraction had been worked out by Donders, who maintained that in the common form of asthenopia hypermetropia is scarcely ever absent. The finishing touch to our knowledge of the causation of the disease was given by von Graefe, who demonstrated the importance of impairment of the power of convergence in inducing asthenopia and therefore of weakness of the internal recti muscles. Dr Clarke describes in succession the various conditions which may induce eye strain and gives concise but clear accounts of the several subjects of accommodation, hyperopia and myopia. He regards the shadow test as the best method for diagnosing astigmatism. He accepts Foster's statement that the primary position of the eyes is that which is assumed when, with the head erect and vertical, we look straight forward to the distant horizon. There seem to be good reasons, however, for thinking that the eyes are really at rest when they fix a distant object about 15° below the plane of the horizon. Their visual axes are then probably parallel or nearly so. The section on muscular insufficiency gives the details of the various methods in use for determining the amount of the insufficiency and of treating that condition. He comments on the extraordinary frequency with which tenotomy is performed in America, one practitioner having operated no less than 2000 times. Well may he call it "tenotomy mania." The final chapter is devoted to Retinal Asthenopia. This little monograph upon an important subject has been well thought out and well written by the author.

A New Pronouncing Dictionary of Medicine being a Volu minous and Exhaustive Handbook of Medicine and Scientific Terminology, with Phonetic Pronunciation, Accentuation, Etymology &c By JOHN M. KEATING, M.D., LL.D., and HENRY HAMILTON, with the collaboration of J. CHALMERS DA COSTA, M.D., and F. A. PACKARD, M.D. With an Appendix. Pp 818. Edinburgh and London Young & Pentland 1892.—The nature and scope of this work are pretty well defined by its title. In addition, however, to the features enumerated above there are a table of medical abbreviations, which is indeed common to other medical dictionaries, and a table of suffixes and prefixes, which, so far as we are aware, is not included in other books of this class. The appendix is pretty full and will be found of great use for purposes of reference. It gives tables of weights and measures, a table for calculating the period of utero gestation and another of equivalents of centigrade and thermometric scales, pictorial illustrations of diameters of the foetal head, a chart

scribing it we find "The next step is to cut with knife or scissors above the lateral fornices, taking care to avoid wounding the branches of the uterine artery. Thus we see great care must be taken in the preliminary clearing of the cervix", whereas it is of course impossible to free the cervix laterally without cutting branches of the uterine artery, and the consequences must be provided against either by ligatures or pressure forceps. The vagueness of description as to this step of the operation may account for Dr Skene's preference for the galvano cautery rather than the knife, because of "the loss of blood and the uncertainty of manipulation from the hæmorrhage" attending the use of the latter.

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Medical Electricity A Practical Handbook for Students and Practitioners. By W. E. STEVENSON, M.D., and H. LEWIS JONES, M.A., M.D. London H. K. Lewis, 1892.

By the early death of Dr Stevenson the science and art of the application of electricity to the diagnosis and treatment of disease lost a foremost exponent, one who had thoroughly mastered the intricacies of the subject and whose writings upon it had already attracted much attention. The present monograph, intended to be, as it will no doubt become, a standard text-book, was planned and commenced by him, and the task of collating the fragmentary portions which he left, and of supplying all that remained to give the work completeness, fell to Dr Lewis Jones. This has involved the contribution by the latter of the major part of the volume, and the manner in which his duty has been performed is worthy of all praise. Unlike many treatises on the subject a large amount of space is devoted to the exposition of the various forms of electricity and its apparatus, and herein we think the authors have done wisely. It is obvious that the student of electricity in relation to physiology and disease ought to start with a clear comprehension of the physical science itself, and it is well not to take for granted a knowledge which may be at the best vague and imperfect, whilst nothing but good can come of a fresh consideration of a branch of physics which formed a part of his elementary education. These matters, too, are treated in a clear and concise manner—statical electricity being first described and then electricity in motion, with valuable explanations of laws and definitions. These chapters are followed by one on the apparatus of statical electricity and the mode of its application, and that by others upon galvanic batteries and accessory apparatus. The preference is given for medical purposes to the Leclanché cell and useful hints are given as to the choice and care of batteries. Indeed, the practical character of the book is one of its main and most valuable features. The chapter upon physiology is full of interest, although it demonstrates the comparative obscurity which veils the question of the action of the electric current upon the tissues generally, apart from its special effect on nerve and muscle. There is no doubt that this imperfection in knowledge has done much to propagate erroneous ideas concerning the effects of electrical treatment, and the lack of scientific explanation has given unbounded opportunity for surmise and conjecture. The labours of Professor

ductory remarks on cases to the writer of the notes and not to our own editorial department

The Satellite, a monthly review of the progress of practical medicine throughout the world, as presented in the reports of the corresponding staff of the "Annual of the Universal Medical Sciences" and in the medical press at large, is edited by Dr Sajous with Dr Witherstone as associate editor. It is unnecessary to do more than draw attention to the publication, its scope and usefulness being indicated by the above statement. Being published monthly it is possible for the practitioner to keep himself more easily abreast with the progress made in various branches of the profession abroad than could be done by a perusal of the Annual only, and he obtains this information at an earlier date. Being produced with the advantages named its good quality is guaranteed and a perusal of the numbers which have already appeared enables us to add our testimony to the favourable opinion of others with regard to it.

The Quarterly Journal of Microscopical Science No 133 Vol XXXIV Part I August, 1892—This part only contains two memoirs. The first, a very full and complete account of the Anatomy of *Pentastomum Teretiusculum Baird*, by W Baldwin Spencer of Melbourne University, and the second on the Minute Structure of the Gills of *Talmonetes varians*, by Edgar J Allen of University College, London. The former paper is illustrated with nine carefully drawn plates containing many figures, and the latter with one plate.

Analytical Records

FROM

THE LANCET LABORATORY

[In consequence of the great increase of work which has devolved on the analytical department during recent years it was last year decided to have an entirely new laboratory constructed. This has been done, and an excellent laboratory, built on lines which a long experience with general chemical investigation has suggested as best, now occupies a part of THE LANCET premises so that the work carried on there is under direct editorial supervision. The laboratory, which is divided into two rooms, has been planned of course to meet the special requirements of THE LANCET. Thus it has been provided with all modern apparatus and fittings especially adapted for carrying on sanitary inquiries, the analysis of beverages, foods, drugs, water and gases &c. It is particularly well lighted and ventilated, being situated on the top floor. The benches are amply supplied with gas, water and waste fittings, while here and there taps are provided by which air may be withdrawn from any part of the laboratory by means of a powerful water pump. The balance by Oertling is the newest pattern of short beam, with agate knife edges and planes, rider slide and plate-glass sole, it turns with $\frac{1}{10}$ gr and carries 5000 gr. The weights are coated with platinum to ensure constancy of weight, they are thus protected from the oxidising action of the air and the attack of acid vapours. The large spectroscope and the pocket spectroscope are by Browning, and the microscope by Zeiss is provided with Zeiss's polariscope attachment. For the analysis of gases Hempel's improved apparatus has been adopted, while the newest form of Sprengel mercury pump has been procured for the production of vacua. A Gay Lussac barometer is employed for the measurement of pressure. The fume chamber is situated in a remote corner of the room and is provided with a ventilating shaft, whilst the gas-supply may be regulated from without so that the doors of the chamber need not be opened when the burners require to be adjusted. For the analysis of organic substances in

which combustion is involved Fletcher's convenient furnace is employed, while for glass blowing &c. the same maker's blowpipe and bellows have been obtained. The shelves carrying the reagents can be adjusted to the height of the bottles to be used in any particular analysis in process of examination. The inner room is set apart for literary work and is provided with bookcases containing the latest editions of the literature of chemical science. By taking these steps, which have involved considerable outlay, we hope to continue with even greater accuracy, care and assiduity, those investigations which have always been so marked a feature of the work of THE LANCET.]

VARIOUS TOILET PREPARATIONS

(NAPOLEON PRICE AND CO, PROPRIETORS OF THE ROYAL PERFUMERY CO DEPOTS 27, OLD BOND STREET, W, 161, ALDERSGATE STREET, E.C.)

The progress that has been made during the last decade in the art of soap making and in the making of other articles of the toilet is certainly remarkable. Soaps in times gone by were more or less the products of a haphazard formula, of which not infrequently substances other than alkali and fat, and oftentimes of an injurious nature, formed a part. Now, on the contrary, it is the aim—certainly of manufacturers of repute—to produce a soap as nearly chemically pure as manufacturing on a large scale will permit. Indeed, so admirably prepared are many soaps that they may be regarded as the pure salts—oleates, pelmitates or stearates—of sodium. The soaps of the above firm give evidence of this, for according to analysis the ingredients are excellently balanced, they are practically free from moisture, and contain but the merest traces of those agents which are necessarily introduced in the course of manufacture. The soap, not inaptly called Velveen and also Twentieth Century Toilet Soap, is of especial excellence. It is delicately scented and evidently made from the best materials. On analysis it was found to contain 8.61 per cent moisture and 9.50 per cent combined alkali (Na_2O). Edelweiss soap, which, as its name implies, is made fragrant with excellent Edelweiss perfume, is another admirable specimen of manufacture. It contains still less moisture—6.65 per cent—while the combined alkali amounted to 9.97 per cent. In brown Windsor soap the moisture amounted to 10.24 per cent, and the combined alkali to 9.30 per cent. It is well suited for ordinary use. Baby soap was perfectly free from alkali, the combined Na_2O amounting to 9.97 per cent and the moisture to 9.03 per cent. The Glycerine and Cucumber soap was equally satisfactory, the combined alkali amounted to 9.60 per cent, and the moisture to exactly 10 per cent., while the green colouring was ascertained to be of a perfectly harmless nature. Eucalyptus and Pine Oil soap affords an example of a very superior antiseptic soap. Other soaps examined were as follows. Coal tar soap, improved carbolic soap and a stick of shaving soap. The coal tar specimen responded feebly to the test for free alkali, but the shaving soap, like the rest, was remarkably free from impurity. The following articles of the toilet were also examined: the Edelweiss toilet powder, the nursery and toilet powder, the Edelweiss tooth paste, cherry tooth paste, a golden oil for the hair, as well as the under-mentioned perfumes. Edelweiss bean ideal perfumes, concentrated essence of Spinarosa (a new perfume from Guatemala, where the flower has grown unnoticed for years) and a perfume styled Gloriosa. The tooth pastes are very agreeable in the mouth, are antacid and antiseptic and contain perfectly harmless ingredients. The Edelweiss toilet powder is fragrant with perfume and was found to be composed of a certain starch, together with exceedingly finely pulverised chalk and a micaceous substance. The nursery toilet powder contained only comminuted starch, delicately scented. The golden oil is an attractive looking pomatum which is solid at ordinary temperatures, but which melts to a clear amber oil on warming. The oil did not appear to saponify when

depicting nerve distribution &c, characteristics of bacteria, pharmacological data, lists of incompatibles and of poisons, diagrams of motor points, synonyms of disease &c., formulæ of solutions in common use, and some other matters. This dictionary, though not of course pretending to compete with Billings' work or with Foster's "Illustrated Encyclopædic Dictionary," is, on account of its convenient size and the clearness of its typography, to say nothing of the value of the appendix, likely to meet with great favour. We have not gone into a critical examination of the book, but are glad to welcome its appearance on account of its distinctive features and its handy and presentable form.

Domestic Electric Lighting treated from the Consumers' Point of View By ED C DE SEGUNDO, Assoc M Inst C E London H Albaster, Gatehouse and Co, 22, Paternoster row, E C.—In this interesting brochure the author endeavours to clear up some of the elementary difficulties with regard to electric lighting. He shows that, economically considered, electricity compares favourably with gas and oil, and he gives some valuable information about wiring and insulating wires without recommending any particular method, however, although the expense of several of them, with notes on their respective advantages and disadvantages, is discussed. Public interest was considerably spurred in this direction by the domestic department of the Electrical Exhibition at the Crystal Palace, but sparse attention was paid to the details and mode of lighting. The book should serve as a useful guide to any who intend to use electric light for domestic purposes and it may help to clear up many hazy ideas on this interesting branch of the subject.

Civilisation and Progress By JOHN BEATTIE CROZIER Third Edition. London Longmans, Green and Co 1892.—The third edition of this work has now been issued, revised and enlarged, after being out of print for the last three years through "various hindrances," as its author tells us in his preface, and "in the face of a steadily increasing public demand," which we can well believe. The book deals with subjects of perennial interest in an original and attractive way, and is written in a fluent metaphorical style that catches the attention and keeps it fixed, it bears, moreover, the impress of conviction. In his preface to the second edition, which appeared in 1888, the author answers some of his critics, and in revising the present issue he has more fully attempted to meet their objections. The alterations and additions, which are not numerous, comprise the substitution of fresh titles to a few chapters and the introduction of some explanatory passages in the text, notably a section on Hegel's "Philosophy of History" towards the end of the book, and another near the beginning entering more fully into "the New Organon," or method employed to investigate and, as the author believes, to solve the problem involved in the complex phenomena of civilisation and progress. The field covered is extensive—practically exhaustive—and the reader is carried swiftly from Tradition to the Future in seven league strides. The chapter devoted to Cardinal Newman and to some of the fallacies of his teaching is especially interesting, as also are those which deal with vigour and directness with the systems of such men as Bacon, Carlyle, Comte, Emerson and Herbert Spencer, and the merits of the New Organon are set forth with such entire confidence that the author's system is at least deserving of examination and his book of the attention which it compels.

Scenes in Fairyland By Canon ATKINSON London Macmillan and Co 1892.—*The Girls and I a Veracious History* By Mrs MOLESWORTH London Macmillan and Co 1892.—Amongst the publications which fill the book sellers' shops at Christmas time those intended for children occupy a large space. Indeed it is a striking fact that the amount and quality of children's "light literature" are year by year increasing. To be sure no modern book will detract

from the interest of Andersen and Grimm, and we would not venture to compare Canon Atkinson's contribution to fairy lore with stories from their imitable pens. Still the author of "Forty Years in a Moorland Parish" never writes without telling something worth hearing, and in the extravagances of imagination permitted to the writer of fairy tales he is just as charming as in his description of existence in a country village. The other little book, by a well-known writer for children, is a simple but well told story, very natural and very homely and healthy.

The Veterinary Journal London Baillière, Tindall and Cox.—The numbers of this monthly periodical for November and December contain much interesting matter, in addition to reports of veterinary associations and valuable extracts and précis of articles from German, French and Italian journals relating to animal medicine and surgery. Among the more important original communications the numbers contain are one on the diagnosis of glanders by the hypodermic injection of mallein from the pen of Professor Déguve, director of the Brussels Veterinary School, in which the great value of that agent is again clearly demonstrated, an interesting case of intestinal obstruction in a mare due to a large ovarian cyst, an account of an outbreak of epizootic abortion among cattle in Australia, an instructive paper on the use of anaesthetics for diagnostic purposes, another on hepatic apoplexy in horses, a suggestive article on septic pleuro pneumonia in calves, by Professor Liennaux, and an exceedingly important description of the "maladie du coit" (recently noticed in a special article in THE LANCET) as it is observed in the United States, into which the disease has been imported from France. This communication is from the pathological laboratory of the University of Nebraska, and the reporter states that there is much reason for believing that the bacterium giving rise to the disease has been at last discovered. This journal continues to give very satisfactory evidence of the steady progress veterinary science and art are making at home and abroad.

Annual of the Universal Medical Sciences A Yearly Report of the Progress of the General Sanitary Sciences throughout the World Edited by CHARLES E SAJOUS, M D, and seventy Associate Editors, assisted by over two hundred Corresponding Editors, Collaborators and Correspondents. Illustrated with Chromo lithographs, Engravings and Maps. The J. A Davis Company, Publishers, Philadelphia, New York, Chicago and London 1892.—Our readers are already familiar, from our notices of previous editions of this valuable series, with its general scope and great utility. The fact that there are so many medical men of standing engaged in the production of the work is a sufficient guarantee for the excellence of it, and this, the fifth series, does not suffer from a comparison with its predecessors. Although there are few changes, and none of much importance, in the arrangement of the facts culled from so many sources and presented in a readable form to the profession, they are all in the direction of improvement. "The Annual by no means pretends to have reached the point of excellence that it is hoped it will some day attain. A conscientious attempt to make it advance as rapidly as possible has been made, but many are the shortcomings still to be conquered and the developments still to be evolved." But few changes have been made in the associate staff. Dr Joseph O'Dwyer has undertaken the department of "intubation" and Dr Baruch that of "climatology and balneology," to which has been added a section of "hydrotherapy." Dr Witherstone no longer prepares the index, a very laborious work, there being a separate index to each of the five volumes, the one at the end of the fifth volume being a general one, but this is undertaken by Dr Kyle and Miss N I McCarthy. The references to contributions printed in THE LANCET are numerous. In mentioning cases from the "Mirror of Hospital Practice," however, a mistake is frequently made in attributing the intro-

stitute. It resembles pepsin powder in appearance, burns with a disagreeable smell and leaves little or no residue. No evidence of its digestive action on coagulated albumen was gained, but it was found to convert starch very readily. The Cascara Sagrada preparation is a fluid extract containing alcohol. It is a dark brown clear liquid, slightly acid to test paper, turning turbid when treated with water and clearing again on addition of alkali. It is evidently not lacking in the active ingredients of the "sacred bark."

BYNO HYPOPHOSPHITES.

(ALLEN AND HANBURY, FLOUGH COURT, LOMBARD STREET, E.C.)

This is an excellent preparation in which are ingeniously combined the hypophosphites of iron, lime, potash and manganese, with the alkaloids of nux vomica in combination with the well known active malt essence, bynin, of the same firm. We have proved its efficacy as regards digestive power, while the tonic salts already indicated and the alkaloids of nux vomica were readily detected. The ash contained an abundance of phosphates, part of which are of course derived from the hypophosphites originally present. Putting on one side its undoubted therapeutic value, attributable to the hypophosphites, the liquid malt itself not only affords an excellent vehicle in the place of ordinary syrup, but it obviously increases this value by reason of its digestive action.

FIRE BRIQUETTES.

(CARVILLE CHEMICAL COMPANY, LIMITED, PAISLEY)

These are composed of a resinous inflammable material worked into briquettes with sawdust. They readily ignite and remain incandescent for some time after the more combustible constituents are exhausted. Although they are more convenient to use than ordinary firewood, they are decidedly slower in producing a well lighted fire, and the material is of such a nature that, like turpentine and camphor it burns with intensely sooty flame. This is a drawback, perchance a trifling one, but the less smoke there is produced the better, whether it is from the fuel with which the fire is lighted or from that which serves afterwards to keep up the fire.

ALBION MILK AND SULPHUR SOAP

(THE ALBION SANITARY SOAP CO 78, NEW OXFORD-STREET W.C.)

In one respect only are we able to speak favourably of this soap. It is beautifully white, as white as any similar preparation we have seen, but in regard to its claim to the title of "sulphur soap" we are doubtful. In the specimen submitted we failed to recognise sulphur in any form that could be regarded as of "sanitary" value. Moreover, it contains free alkali and this fact is calculated to make itself evident to tender and delicate skins.

BRAND AND CO'S MEAT JUICE

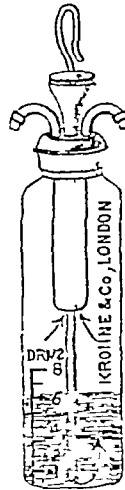
(BRAND AND CO 11, LITTLE STANHOPE STREET MAYFAIR, W.)

This is a powerful, nourishing and stimulating fluid, obtained from prime beef by submitting it to pressure in the cold—a method of preparation which must be regarded as highly satisfactory, for, according to our analysis, the valuable principles of the meat have not only been preserved intact, but the fresh, agreeable and natural flavour of beef has also been retained. On warming it turns quite solid from the presence of unaltered albumen. When spectroscopically examined the characteristic hæmoglobin absorption bands are observed, but, after boiling, the clear liquid no longer exhibits this property, while the coagulum assumes a dark-red colour. Analysis gave the following results. Water, 60.00 per cent., beef extractives, 29.65 per cent. (containing 3.06 parts of nitrogen), and mineral matter 10.35 per cent. consisting chiefly of soluble phosphates and common salt. No objectionable preservatives were detected. The alimentary value of the preparation is evident.

New Inventions.

FURTHER IMPROVEMENTS IN INHALERS FOR FACILITATING SAFE ADMINISTRATION OF CHLOROFORM OR METHYLENE

THE well known feather serving as a respiration indicator in the inhalers which were described in THE LANCET of April 17th, 1891, was originally made to rise by expiration to an angle of 90°. Messrs Krohne and Sesemann now put a check in the axis, into which the feather is fixed, which prevents it from rising above an angle of 50° or 55°, which permits a more accurate estimation of the strength and character of the respiration. They also make a number of perforations around the rim of the inner cone of their inhalers upon which the feather falls at inspiration, by which it is made more certain that free respiration is not interfered with. They also make a chloroform bottle, as shown in the engraving, in which they combine both the improvements suggested by Dr W Dudley Buxton and Mr C Brann—viz., the addition of a funnel for facilitating refilling during a prolonged operation and an arrangement of their own for preventing the injection of fluid chloroform or methylene by accidental over tilting or turning the bottle upside down. It is of a size a trifle larger than the ordinary Junker's. They also introduce a new device of their invention for watching the respiration by hearing. A double tube is made for use in operations on the mouth, nose or face. Through one of the tubes the narcotic vapour is administered in the usual way, whilst the second tube is brought in direct communication with one or both ears of the administrator in the manner of a single or double flexible stethoscope, enabling him to watch and estimate the respiration by the corresponding sound conveyed to the tympanum. They have also adapted the hearing tube to their plain open-ended cone, by means of which the respiration can be watched during every stage of the administration and, if desired, by several observers at the same time.



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AN OPHTHALMIC ATLAS FOR RECORDING PATHOLOGICAL CONDITIONS OF THE FUNDUS BY MEANS OF SUPERIMPOSED LAYERS OF COLOUR

THIS little atlas, which has been devised by Mr Frank Haydon and which is only about three inches and a half square and therefore is easily carried in the pocket, will, we think, prove of great utility in the out-patient room and in the wards of a hospital. It consists of a series of plates exhibiting the fundus of the eye and optic disc printed in vermilion similar to those published in 1886 by Dr Haab, but differing from them in the circumstance that beneath the vermilion is a layer of black pigment, representing the choroid, whilst beneath the black is a layer of enamel white. In some of the plates the usual arrangement of the retinal vessels is inserted, others present the disc only on a red ground, the vessels being omitted. The advantage of the triple layer of colour is that by gently scraping away the red superficial layer with a penknife the black layer is brought into view, whilst by scraping the black away the white enamel representing the sclerotic is exposed. Pathological appearances can thus be roughly but easily rendered and much time saved, for it is difficult, as all know who have tried it, to make a good surface with vermilion and the introduction of the disc and vessels is troublesome on the damp colour. Five minutes' work with a knife will serve to fix the condition of the fundus that would otherwise be lost. The atlas is made by Messrs Down Brothers, St Thomas street.

treated with alkali, it is therefore not liable to become rancid or undergo any undesirable change on exposure to air. Each of the perfumes yielded milky fluids when diluted with water, owing to separation of essential oils, and undoubtedly derived from their respective flowers, and on adding ether the milkiness at once disappeared. As already indicated and subsequently confirmed by analysis, the toilet preparations of this firm afford excellent types of the state of perfection to which the manufacture of soap and similar articles has been brought.

LIQ. COLCHICINÆ SALICYL.
(HOPKINSON AND CO., NOTTINGHAM.)

A dark brown acid solution with bitter saline taste. On adding sulphuric acid it turns solid from separation of salicylic acid, which dissolved in ether and yielded a violet colouration with iron perchloride. Benzene extracted from the liquid made alkaline with soda, the alkaloid colchicine, which was recognised by the yellow reaction it gave with both acids and alkalis. The vapour of alcohol obtained on boiling the liquid ignited with a blue flame, tinged now and again with red, which when viewed with the spectroscope proved to be due to lithium. It further contains cnicifuga.

LIEBIG'S EXTRACT OF MUTTON.
(R. W. ANDERSON, 92, UPPER THAMES-STREET, E.C.)

In spite of the process through which this preparation must have gone in order to obtain so excellent a degree of concentration it forms a very palatable broth when simply dissolved in warm water, although obviously the flavour is considerably improved by the addition of fresh vegetables. It is eminently rich in the extractives of mutton, as may be gathered from the following analysis. Moisture, 11.60 per cent., mineral solids, 21.74 per cent. (phosphate and common salt), meat extractives, 66.66 per cent., containing as much as 10.03 parts of nitrogen. It is perfectly devoid of fat and is therefore suited to feeble digestions and to invalids who cannot partake of ordinary mutton broth. Whilst doubtless it possesses restorative properties in that it contains creatin and other valuable nitrogenous extractives of mutton, and is on this score admirably fitted as an adjunct to soups and other food preparations, it cannot be regarded as possessing *per se* any real nutritive value, because it is necessarily free from albumen and fibre. We note with satisfaction the absence of injurious preservatives.

PALATABLE COD LIVER OIL.
(T. CHRISTY AND CO., 25, LIME STREET, E.C.)

This is a clear golden yellow oil in which the taste of the cod liver oil is well nigh masked by the flavour of cinnamon and some sweetening agent. Hot water dissolves out the sweetness which suggests glycerine or saccharine as a derivative. On stirring the oil with strong sulphuric acid the well known crimson reaction was obtained. To our palate the taste is not disagreeable and those persons to whom other forms have proved repugnant should try this preparation.

SHUTTLEWORTH'S COCOA ESSENCE.
(W. S. SHUTTLEWORTH AND CO., 34, FENCHURCH STREET, E.C.)

Free from husk, readily miscible with hot water and containing a comparatively small proportion of fat—are our analytical notes respecting this specimen of cocoa. Raw cocoa contains, as we have before pointed out, as much as one half of its weight of indigestible fat, and its removal not only eliminates an objectionable ingredient, but its value is thereby enriched because the nitrogenous and stimulating principles are simultaneously concentrated. The above cocoa has been prepared on these lines and its genuine nature is indicated in the following analysis.—Moisture, 5.01 per cent., fat, 15.60 per cent., ash, 4.61 per cent., alkalinity of soluble ash, 0.60 per cent., calculated as Na_2CO_3 . More than two-

thirds of the fat have been skilfully abstracted, in spite of which the flavour of the final product or its infusion is all that can be desired.

DR. THEINHARDT'S FOOD FOR INFANTS AND HYGIAMA FOOD.
(AGENTS SORESENSEN AND CO., 33, GREAT TOWER STREET, E.C.)

So favourable was the first impression conveyed to us on a mere inspection of these foods that we submitted them to careful examination and a somewhat extended analysis. They are both rich in carbo-hydrates, the greater proportion of which is soluble. The food for infants contains less nitrogen than the food called hygiama, while the latter possesses a pleasant milk like cocoa flavour (owing to the cocoa it contains) and the former a very agreeable taste resembling malted milk. Valuable mineral constituents, the phosphates of lime and potash, occur to a remarkable extent in both preparations. Analysis gave the following results.—Hygiama: moisture, 3.41 per cent., fat, 5.01 per cent., ash, 3.81 per cent., nitrogen, 3.65 per cent., carbo-hydrates (chiefly soluble), 64.77 per cent. Infants' food: moisture, 8.00 per cent., fat, 0.5 per cent., ash, 2.76 per cent., nitrogen, 2.2 per cent., carbo-hydrates (mainly soluble), 74.78 per cent. Under the microscope there were indications of the foods having been partially digested, unchanged starch cells were scarce, while dextrin and sugar were present in abundance. These foods are doubtless of high dietetic value, and the ingredients of which they are composed are evidently derived from the best of materials. In addition the flavour of each is very pleasant and calculated to stimulate even a feeble appetite. They are well suited for invalids and infants or for general use. Whilst admitting in the face of our analyses the excellence of these foods, the fact of the name of a medical man being attached to them calls, we think, for adverse criticism.

NUTRIENT WINE OF BEEF PEPTONE.
(ARMOUR AND CO., CHICAGO AND 59 AND 60 TOOLEY STREET, S.E.)

It is well known that peptones are precipitated by strong alcohol, but in the above preparation, in which an excellent sherry is the vehicle, the alcohol, while it is not in sufficient quantity to render the peptones insoluble, tends in all probability to preserve the peptones from objectionable putrefactive change. That true peptone was present was evident from the tests we made, thus with a few drops of copper sulphate and an excess of caustic soda a rose-red colour was produced. Phosphotungstic acid, again, gave an abundant precipitate, as did also saturated ammonium sulphate. When evaporated to dryness the residue amounted to 27.42 per cent., of which 0.87 part was nitrogen and 1.82 parts mineral matter (chiefly phosphate of potassium and chlorides). It is a restorative and nutrient wine of distinct value and its employment in some cases would be preferable to the ordinary beef wine, inasmuch as the nutrient material in it is presented in a predigested state. The taste is satisfactory. Each fluid ounce is stated to contain the nutritious constituents of one ounce of prime lean beef.

BROMO-SODA INGLUVIN AND FLUID EXTRACT OF CASCARA SAGRADA.

(WARNER AND CO., PHILADELPHIA, AND F. NEWBURY AND SONS, 1 AND 3, KING EDWARD STREET, E.C.)

Bromo soda is a skilfully prepared granulated salt containing as active ingredients caffeine one grain and sodium bromide thirty grains. The caffeine can be liberated with an alkali extracted with chloroform and recognised by its very characteristic appearance and chemical tests. It is an agreeable effervescent saline and under the guidance of a physician may be administered with advantage in headache, over-exertion and depression. Inglavin is obtained from the crop of the domestic fowl and may be regarded as a pepsin sub-

THE LANCET.

LONDON SATURDAY, JANUARY 7, 1893

WHEN commencing our first volume for 1892 we reminded our readers that THE LANCET then entered upon the seventieth year of its career, in which confession it might seem to be implied that at the present date the part which we aspire to play must be so well defined that, save for the purpose of private and personal improvement, there could be no object in our reviewing it. But upon the view which we have always taken of our relation to our readers that is not the case. We do not write merely to be read but also for the purpose of giving expression to the feeling of the great profession which we represent upon the various questions which from time to time it is our duty to discuss and of putting that expression of feeling upon record. In such a task the whole profession is concerned with us and therefore it is fitting that we should from time to time submit to our professional brethren an account of the way in which our work has been discharged. That their interest in this work is both real and keen is abundantly evidenced not only by the continued growth of our subscription list but also by the contents of our "Correspondence" columns, which are remarkable not more for the variety of the topics therein treated of than for the number of correspondents who contribute and the extent of their communications. This, which is a feature of THE LANCET upon which the Editors put the very highest value, is, moreover, a feature which in recent years has undergone a great development. A reference to one of our past volumes, though of recent date will make good this assertion. For example, in 1889 the "Correspondence" columns occupied 130 pages, whereas last year they extended to 267 pages. It is hardly necessary to add that in such a mass of correspondence no single topic of interest to the profession was lost sight of, and it would hardly be too much to allege that every phase of opinion held upon debated subjects of this order found some fitting expression.

It is not in this branch only of our work that the growth of the past year has been marked. Indeed, it is interesting to note how in various branches the volume of our work expands by a sort of natural growth, corresponding in this respect to the development of the studies with which our profession is identified. If a sufficiently long period of time—say, a decade or the quarter of a century—is passed in review it is easy to discern that events are marching in ordered sequence and with a rapid step. But like the travel of the shadow on the dial the movement is in general too imperceptible for direct observation. Epochs or epoch making events must be used as dividing lines to mark the hours and register the movement if this is to be made sensible and amenable to observation. So everybody is able to discern the growth by which our art becomes more precise and our science more profound. But in a more subtle way this process may be traced in the increase registered from year to year in the various departments of our work. Every new view of the old facts brings some new facts into light and every new fact registered leads sooner or later

to the enlargement of our theoretical comprehension of both old and new. Thus on both sides the field of our labour is ever increasing and this growth is most graphically shown by the increased demands which year by year are made upon our space. Under this view the following statistics of our publication during 1892 will be of interest. During 1892 one number extended to 216 pages, one to 200 pages, one to 168, two to 152, nine to 144, twenty five to 136 and twelve to 128 pages. Only in one issue was the theoretical limit of 120 observed. Altogether the two volumes of THE LANCET for 1892 contain 7392 pages, an average of 142 pages for each issue, an increase of five pages per number over the average numbers of 1891. Not only has the work of composing and publishing to be transacted at the office of the paper, but for the more convenient and efficient accomplishment of the work of analysis, of which the results are regularly laid before our readers, a chemical laboratory has been fitted up upon the premises in which this work is carried on.

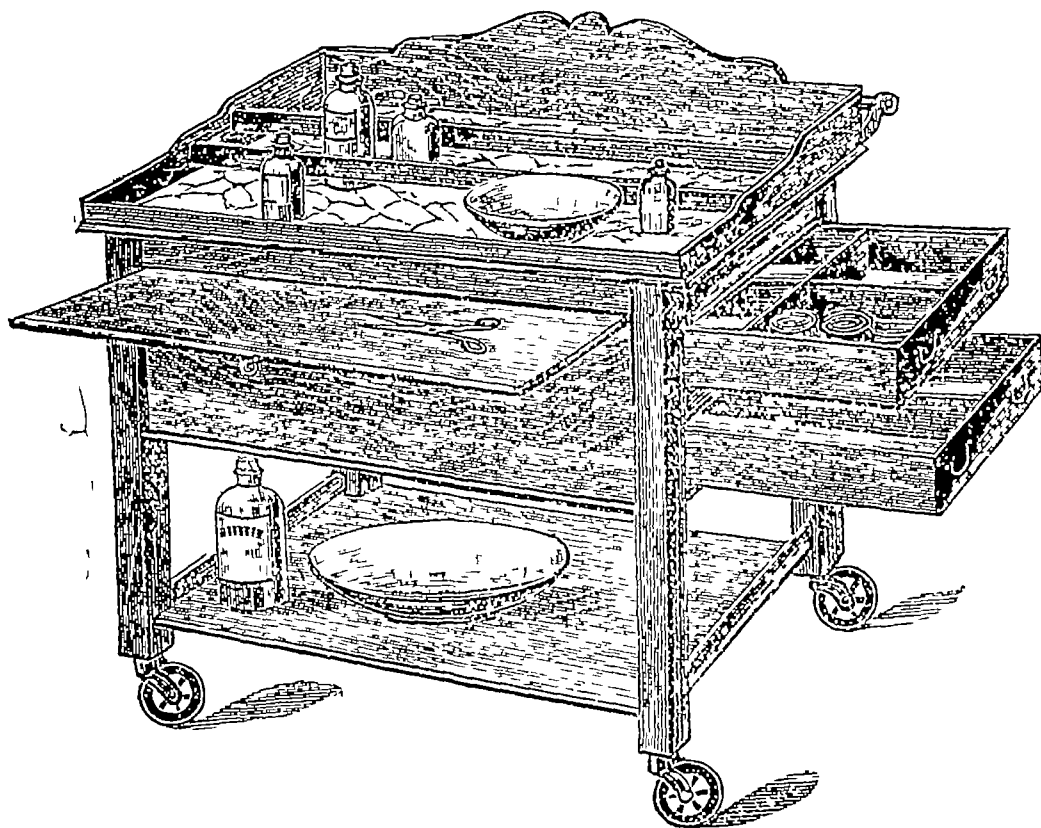
Turning from these general aspects of our work we may allude briefly to some special departments in which noteworthy results have to be recorded. And here we must devote a line to the mention of the Metropolitan Hospital Sunday Fund collection which has always engaged the special interest of our readers. That interest received an eminently practical expression when in 1891 in response to an appeal made in these columns the medical practitioners of London circulated among their patients some forty thousand copies of the special Supplement of THE LANCET prepared and issued in support of that collection. A similar suggestion elicited a like response from our readers last year, and we doubt not that the personal interest which they have thus shown has had a very substantial effect upon the success of the appeal made to the religious congregations of the metropolis. It is indeed true that we are not able this year as we were last to point to some one munificent gift as having been secured by the agency of THE LANCET Supplement, but that could not be expected. With the aid of our readers and of the various ministers of religion and their coadjutors we were enabled to circulate one hundred and forty thousand copies of the reprinted Supplement, and we are well satisfied that the wide diffusion of a knowledge of the facts of the case thus brought about is precisely what is needed to evoke the practical sympathy of the charitably disposed in support of this most beneficent work.

Another work of charity, smaller in compass but of special interest to medical men, which has been an object of no little solicitude to our readers and ourselves during the past year, is that carried on by the Council of the Royal Medical Benevolent College at Epsom. This most admirable undertaking has long suffered from want of funds and the combination under one roof of an asylum for the old and a seminary for the young—an arrangement which tends not only to overcrowd the available space, but also to hamper the due and efficient performance of the educational work. The excellent results which, in spite of this very serious disadvantage, the teachers engaged there have been able to secure have afforded proof enough that there is in them a capacity for doing good work and accomplishing great things in this department, which merits much more ample recognition than it has yet received, and we have never entered with a more cordial goodwill upon any task than upon

HOSPITAL DRESSER'S TABLE

THE utility of this table, which is made by Mr Alfred Carter of 47, Holborn Viaduct, E C, will be apparent on examination of the accompanying illustration. It has a

entire length of the table, so as to be available from either end. The bottom shelf is useful for bowls &c There is also a towel rail at the back The table is mounted on



solid marble top with lodges and rails, a sliding slab for cutting and preparing bandages &c There are two drawers divided into compartments These drawers run through the

strong brass castors and is strongly made in polished birch, forming a compact, useful article It will be a boon to some of our large surgical wards

"THE LANCET" SPECIAL COMMISSION ON MALARIAL FEVER IN TROPICAL AFRICA

THE following gentlemen have sent answers to our queries —

Anderson, D E, MD Paris MB, BA BSC Lond,
MRCS, LRCP, LSA Lond, Rue du Bois de
Boulogne, Paris

Battersby, C F Harford, BA MD, BC Cantab, MRCS,
LRCP Lond Niger, West Africa

Beatty, J W, MD, Surgeon on the Medical Staff, Sierra
Leone

Cavanagh, A, Surgeon Major, AMS

Churcher, T G, MB Edin, MRCS Eng, Tulloch
Memorial Hospital Tangier, Morocco

Clements, W G, MRCS Eng, Surgeon Captain, Sierra
Leone.

Crutwell, H Athill, LRCS, LRCP Edin, First Class
Honours in Diseases of the Tropics, Colville-square,
Bayswater, London

Deacon, J G MD, MCh, LAH Diploma State Medicine,
Egerton Villas, Military road, Cork

Eaton, R O, Surgeon Lt. Col., US, Fermoy, co Cork

Felkin, R W MD, FRSEd, FRGS, &c, Alva street,
Edinburgh

Gore, Alfred A, MD MRCP, FRCSI, Surgeon
Colonel, AMS, Headquarters, Chester

Kilroy, P E, Brigade Surgeon, Lt. Col., AMS, Station
Hospital, Limerick.

Lamprey, J J, Surgeon Major, AMS, Junior Army and
Navy Club, London, SW

Lawson, Robert, Superintendent of Hospital, Lansdown
road, Notting hill, London

Lowe, R. Whittington, MD, Upper Berkeley street, London
Macnamara, W J, BA, MD, MCh, Surgeon Captain
Army, Portsmouth.

Mangan, F M, MRCS, LRCP, Fairholme road, West
Kensington, London

Martin, J W MD, FRCP Edin, Ferry road, Leith

Morgan, A H, LRCP, LRCSI, Surgeon Captain,
Army and Navy Club, Pall Mall, London

Parke T H, Hon DCL Surgeon Captain, AMS, Royal
Victoria Hospital, Netley

Poole, W O, MB, BCh, TCD Surgeon Captain, Medical
Staff, Station Hospital, Limerick.

Sharpe, A, MD, MCh, LM, RCPI DPh, RCSI
care of Holt & Co, Whitehall Place, London

Whittindale, J G, Medical Officer, Brass River District, Oil
Rivers Protectorate, WC Africa.

Wilson, E M, MRCS, LRCP, Surgeon Captain, AMS,
Gillston road, South Kensington, London

agreement on the subject. Take, for instance, one point one-half of our correspondents, in reply to our query about rigors, say that they do not occur in malarial fever, the other half say that they form an invariable symptom of the disease. Again, most of the observers have apparently been unable to ascertain anything regarding the condition of the blood or of the urine in patients suffering from malaria, and for want of definite facts in regard to these two points we are, of course, unable to come to any conclusion about them or to collate them with LAYERAN'S and other researches. With respect to the so-called Blackwater fever in Africa, what are we to hold as a correct view? We have heard of Blackwater fever in America and in various other parts of the world, but when we come to investigate and analyse the reports of it in West Africa we are bound to confess our inability to form any definite opinion on the subject. The difficulty we experience, moreover, in estimating the value of conflicting opinions is that we have no detailed results of any examination of the blood or urine.

Thirty or forty years ago it used to be dogmatically held that some forms of yellow fever might be considered as only varieties of malarial fever. How can this, however, be reconciled with the investigations which have recently been made into the subject of yellow fever by FREIRE of Rio and others? We want our correspondents to try, so far as they are able, to contrast the differences between yellow fever and severe forms of malarial fever, and also to estimate the relations, if any, which exist between enteric fever and malarial fever. We cannot help thinking also that, notwithstanding the heat and discomfort of a residence in Africa, it is possible to make more careful and detailed investigations than have hitherto been undertaken as to the condition of the urine and other excreta of patients suffering from these diseases.

THE more we think of the new departure in diploma granting contemplated—for it is as yet, we believe, only contemplated—by the University of Edinburgh the more are we convinced that it needs to be very much criticised. If there is one thing of which authorities on medical education are convinced it is that examinations are becoming a great evil. No doubt to a certain extent they are a necessary evil, but nevertheless they are in themselves a very serious evil. To propose five brand new examinations is an astonishing proposal. For it must be understood that these are not to supersede any existing examinations. The unfortunate graduate who has been under the delusion that in taking the degrees of a great University he was doing something extra—something above what was required by the mere licensing bodies—is to learn that his degrees are “lower degrees” that have been obtained by mere “elementary training”—that the real distinctions are now to begin by acquiring from one to five diplomas, which are to put his degrees into the shade, each to occupy at least one special year of study and to be the subject of a special examination.

No matter how a student may distinguish himself in his classes during the ordinary curriculum and in the examinations for the existing degrees, honours are not to accrue to him as they have hitherto done. “Honours” are to be reserved for those taking the ulterior courses and examinations required for the fantastic process of specialisation, who are also to be rewarded with a diploma guaranteeing them to

be precocious rhinologists, cardiologists, nephrologists, gynecologists and hallucologists!

These proposals are a long step towards the fulfilment of that prophecy of Dr HERON WATSON that ere long the process of medical education and qualification will bring the student up to the ripe age of forty years. There may be worldly wisdom in such proposals from the University standpoint, but from the standpoint of the student—of his health and his fitness for the practical work of his profession—we very much question the wisdom of prolonging his stay in Edinburgh, where the clinical field—of prime importance in respect of special medical work—is notoriously inadequate for even the existing number of its students.

So far as we are able to divine the motives for this new departure, they will be found in a belief that it will add to the attractions of Edinburgh as a medical school and enable it the better to compete with London as a school of practical and clinical teaching. Edinburgh is a great school, a great centre of medical education, and nothing but grievous errors of judgment and taste on the part of her leading teachers are likely to alter that fact. But surely she is in some danger of falling into such errors at the present moment and in this new movement, for what does the very statement of it involve? First, it involves a disparagement of her degrees—they are to be eclipsed by her diplomas—a reversal of all academic conceptions of the respective value of degrees and diplomas. Her graduates cannot but resent such distinctions, and her detractors will be ready to point the finger of disparagement at her degrees and will be able to quote in justification the language of her own professors. The prestige of the University of Edinburgh is enough to sustain her for centuries yet to come in the first rank of medical schools if she will but recognise the limitations of her field, especially of her clinical field, and sustain above all things the high character of her proper medical degrees. Surely the more unprejudiced of those interested in the welfare of the Edinburgh school must see that by promoting this scheme of special diplomas Edinburgh is only likely to demonstrate her weakest point. They must see that if specialisation in diplomas is to be accepted it will not stop at Edinburgh, or at the other Scottish Universities to which the new medical ordinance of the Commissioners applies equally as to Edinburgh. London and Manchester will be able to assert a still stronger claim to be schools of specialism. So long as Edinburgh holds high the standard of her graduation and can honestly show that it is higher than the standard of the corporations she is on strong and dignified ground. When she attempts to take the initiative in creating a race of pretentious specialists that can have had but little practical experience she immediately descends to vulgar ground on which she can easily be beaten. We have nothing but pleasure in seeing schools competing to give to their pupils the greatest amount of special and valuable teaching in practical subjects, and we are well aware that Edinburgh contains a number of able and accomplished teachers, intra mural and extra mural, far beyond her mere professorate, who are eager to find a proper recognition and emolument in connexion with the large number of students that still flock to her school. Such men ought to find ample function and recognition with the

that of assisting in the movement which has been set on foot for improving the accommodation and making a more suitable provision for the pensioners than can be afforded at Epsom. We have not so far secured all the support for which we have hoped from our professional brethren, and it has been found impossible to realise the conditions upon which we as Proprietors of THE LANCET promised a subscription of £1000 towards the fund. In these circumstances the gift has been unconditionally made, and although it would have given much greater satisfaction to be able to announce that the generosity of the public had floated the scheme we are sanguine that that satisfaction is only delayed. Still, it must not be forgotten that in these matters time is all important. Every year that slips by while the conditions of work at the school remain unimproved means so much time actually lost to useful work. In this, as in so many other instances, it is eminently true that *his dat, qui cito dat*.

We trust we may not be considered egotistical if we point out that from the date of its foundation, on October 5th, 1823 to our present issue of Jan 7th, 1893, THE LANCET has been uninterruptedly under the actual editorial direction of members of the family of its founder, THOMAS WAKLEY, M.P. He, after many years' active work as Editor, was succeeded by his son, JAMES G. WAKLEY, M.D., since whose death in 1886 THE LANCET has been conducted by the present Editors, THOMAS WAKLEY, F.R.C.S. Eng., and THOMAS WAKLEY, jun., L.R.C.P. Lond., son and grandson respectively of its founder, who devote themselves exclusively to this work and do not permit themselves to become concerned in any professional engagements or business relations that might possibly render them less able to deal disinterestedly with the various matters which from time to time come before them in their capacity as Editors of THE LANCET.

The year upon which we have now entered will bring its own tasks and its own enlargements of the tasks with which in previous years we have grown familiar. We are sanguine of being able to meet them as they arrive chiefly because we are confident that never before has the support of the medical profession been extended more ungrudgingly to us and the interests to which our efforts are devoted than at the present time. It needs no great discernment to foresee that in this year 1893 knowledge will be increased and the interchange of views and opinions will be promoted in an even more than usual degree. It is not impossible that grave anxieties may lie in wait for us, for a recrudescence of the cholera epidemic of 1892 could hardly have less than very serious consequences in 1893, and he would indeed be a sanguine man who would count with any confidence upon a total escape of the civilised world from such a mishap. But be that as it may, we have at least this firm ground of satisfaction in looking forward into the uncertain and impenetrable future. We know that it will be our privilege to represent a profession which will acquit itself worthily. An unbroken past justifies us in saying that, whether the lot of the medical practitioner be cast in times of public quiet and prosperity or in times of disease and stress and storm, he will be found exhibiting qualities worthy of his calling and his post. At leisure he will be found diligently prosecuting those researches which lie at the foundation of his arts—in the place of

danger and in the hour of distress he will be found administering needed help with self forgetful devotion to a nobly conceived duty, and in either case he will humbly but not unworthily fill the office to which he has been called—an office than which none is more fitted to awaken and satisfy a generous ambition among all the varieties of human duty.

In our issue of July 2nd, 1892, we published a leading article referring to a commission which we had appointed to elucidate the occurrence and phenomena of malarial fever in Africa. At the same time we issued a schedule of questions which we hoped would be widely answered, as we sent them to many hundreds of practitioners who had been or who were practising in various parts of Africa. Accompanying the schedule, in most cases, a special letter was sent, calling attention to our endeavours to clear up as far as possible the difficult points which still surround this subject and asking our correspondents to do their best to aid us in an inquiry which we believed would be of the greatest use, not only to our colleagues who are bearing the burden and heat of the day in distant lands, but also to their patients and indeed to mankind in general. When so much has been done to investigate and elucidate the etiology of phthisis and cholera, it certainly seems remarkable that the medical officers of our army and navy, as well as the useful and too often ignored colonial officials, should not be able to do more than they have done in the past to clear up the etiology of a disease which above all others has been the bane of tropical life.

Notwithstanding all the letters and communications which we have received upon the subject during the past few years the response to our present inquiries has not come up to our anticipations. Up to the present date only twenty-four gentlemen have been kind enough to meet our desires by answering the detailed queries which we addressed to so large a number. It is quite possible that the distance of so many of our colleagues from the ordinary postal communication explains this fact, but of one thing we are sure—that the answers we have received have more than justified our wish to investigate the subject of malaria in Africa. They have already shown that up to the present time the various observers have been very far from agreeing in their estimate as to the essential nature of malaria. Some, indeed, of our correspondents seem to think that malarial disease does not even exist, others that what is termed "malaria" is only another name for chill, and others, that the disease in question is only a peculiar derangement of the so-called heat-regulating centre.

We do not wish in any way to forestall the outcome of our inquiry, which will prove, we are sure, of considerable interest. We would, however, again ask as many of our correspondents as possible to answer the questions which we have addressed to them. They have been able, no doubt, to form some opinion on the matter and, as we have taken considerable trouble to specify the various points upon which there appears to be most diversity of opinion, we hope that many will make a special effort to send us their observations in regard to them.

A glance at the reports which have been received shows how important it is for widespread information to be gathered before there can be any hope of ultimate

and pure and honourable he bore on his shield a device by which, even with visor down, he could be recognised by the spectators. The choice of such an emblem with its companion motto was one of great importance and came to distinguish its bearer not only in tournament but in stricken field. "The old order," indeed, "change'h," but this especial custom clings to the knight errantry of the modern day—the knight errantry that in the arena of journalism does battle for freedom and reform, for the suppression of the impure and the vindication of the salutary and the good. Instances of a happy choice of emblem or rubric by the leaders of the public press will at once rise to the mind, and we may be excused if, after the attainment of our "threescore years and ten," we revert for a moment to the name of THE LANCET. It was the chosen appellation and device of a medical journal started to combat jobbery, with its "bloated armaments" (to borrow Lord BEACONSFIELD'S phrase), the professional "close boroughs" and all their attendant rapacity, corruption and inefficiency. Plethoric corporations, which had battered on the unrecognised and unrequited work of generations of sound and self-denying public servants demanded a treatment with alteratives the efficacy of which had to be ensured by local and periodical depletion. That the therapeutics in question were sagaciously conceived and effectively carried out is now matter of history, which has put on undying record the name of its practitioner as well as that of the instrument with which he practised. The physician or surgeon of the present day, brought up under the free and openly competitive system for which THE LANCET lived and laboured, requires some effort of imagination to realise the "close-time" of seventy years since—metaphorically speaking, he must "see these roads before they were made," to appreciate the tunnelling, the blasting, the levelling up and the levelling down, begun and completed to construct the highway over which he is now wafted in his sleep. Nor was it in the British Isles alone that the work of THE LANCET was conspicuous. Imitation—that sincerest form of flattery—followed its lead in continental Europe and even in the new world, and to combat a similar state of professional torpor and corruption many journals, borrowing the name and the style, if not the skill, of the parent, arose throughout Christendom. Our correspondents at the central European schools might usefully make a survey of the history of their medical journalism and show how many a capable and well inspired organ adopted the title and the methods and achieved something like the reforms of its London progenitor. Let one instance suffice. Fifty years ago Holland took a mighty lead in physiological and pathological research chiefly under the auspices of the great GERARD JOHN MUTTER and his disciples. To further the reforms it had promoted in doctrine and in teaching his school started a special organ and the name assumed for it was the *Nederlandscher Lancet*. Under DONDERS (the great ophthalmologist) and his hardy less able co-peers, ELLERMAN and JANSSEN, the journal rose to fill something like the place occupied by its London namesake, inasmuch that in 1837 at the memorable first meeting of VIRCHOW and MOLESCHOTT, the young German pathologist told the young Dutch physician that the *Nederlandscher Lancet* aroused his admiration and enthu-

siasm. To this Netherlands copy of a British original the surgery and medicine of Teutonic Europe owed a revival—so true it is that the initiation of nobly inspired reforms is not only a good in itself, but a cause of good in others. Indeed, THE LANCET'S true monument is "Circumspice"—an all round comparison of "the professional status and standards of to-day as contrasted with those of "seventy years since", and it is a monument in which (whatever the inevitable streaks in the marble) its founder would have taken pride for its realisation of all he held most dear.

Annotations.

"Ne quid niteris."

PREPARING FOR THE INTERNATIONAL MEDICAL CONGRESS

ONE of the great medical events of the year now opening will be the International Congress of Medicine and Surgery to be held in Rome on Sept. 24th 30th. Committees, Italian and foreign, have worked effectively with the central Comitato Organizzatore for the elaboration of its programme and for the convenience and comfort of its participants, but it is in Rome itself that, naturally and properly, the greatest activity still prevails. Not only is the Policlinico in whose magnificent halls the sittings will take place still far from completion, but the other hospitals throughout the city require ameliorations neither few nor small to fit them for the scrutiny of the medical world from such centres of civilisation as London, New York, Paris, Vienna and Berlin. Of this no one is more sensible than the President of the Congress, Dr. Baccelli, himself. One of the very busiest men in Christendom, he has assumed an extra burden of thought and care in view of the 'march past' of Italian medicine before the critical eyes of Europe and America, and no effort is being spared on his part to make every arm of that "service" appear as capable and effective as possible. Meanwhile the physicians and surgeons of other nationalities who intend to assist on the occasion have also their special duties to perform. One of these is that of fitting themselves as far as they find it practicable for the part they have to play not only as audience but even as protagonists. More than one British consultant and academic teacher—a yet larger number, we believe, from Germany—are prepared to read papers and contribute to the discussions in the language of Italy, and we cordially congratulate them on their having so qualified themselves. The accomplishment, we are quite sure, will be found to be much more common among our representatives than is generally admitted—a "working knowledge" of Italian, by which is meant ability to read or even write it, being far more widely diffused among the profession than its censors think. This knowledge has only to be carried a step farther—has only to call in the aid of the 'parlato' to become available for conversation or spoken discussion. To such as have still that "working knowledge" to acquire there are various avenues to it possible. One is the time-honoured recourse to grammar and dictionary followed by the perusal of a standard author—a method by no means unpleasant when pursued with such a beautifully scientific manual as Dr. Demattio's 'Grammatica Italiana,' Innsbruck, 1875, combined with such an excellent 'Vocabolario' as Fanfani's (Florence, 1891) and applied, let us say to a comedy of Goldoni. Another and much more expeditious way is that recommended by our own Milton and Locke—to wit, comparing a good English translation of an Italian work with the

existing numbers, which, however, are said to show some falling off in consequence of the greater care and attention given in England of late years to practical teaching. By all means let the Scottish schools develop their practical side to its utmost and curtail their systematic lectures, and let her younger teachers who devote themselves to practical and clinical classes share in the dignity and the profit of University work. What we object to is the multiplication of examinations and diplomas with the admitted purpose of multiplying specialities instead of raising the standard of the existing degrees. Edinburgh will be judged by her graduates and not by her specialists, and her best friends will sincerely rejoice to hear that she hesitates to set the example to other examining bodies of a most doubtful new departure.

We have said nothing as to the registrability of such diplomas. The ordinance may receive the sanction of the Privy Council, which we believe to be necessary for all such ordinances. But we do not understand that they will have any claim to be registered under the Medical Acts in the sense in which sanitary diplomas were made registrable by the Act of 1858. The promoters of this most doubtful scheme have not yet submitted it to the judgment of the Medical Council. If we appear to speak severely on this subject it is from no want of interest in the University of Edinburgh—a University which has numbered amongst its graduates the names of WATSON, of WALSH, of MURCHISON, of STOKES and CORRIGAN and GRAVES, as of ALISON and SYME and CHRISTISON—but for the very opposite reason—our desire to see the leading University of Scotland maintain her high and her deserved reputation.

We commented in a recent issue on a request which had been made by the chairman of the Cornwall County Council to be supplied by the various local medical officers of health, on special forms compiled by the county council, with a number of data relating to vital statistics and general sanitary administration, and we expressed the opinion that if the county council desired information of this sort they ought, in the first instance, to appoint a county health officer. We now find that somewhat similar requests are being made by other county councils, who, whilst they do not hesitate to make demands for information which can be neither properly compiled nor properly utilised without medical judgment, send out notices as to their requirements without any offer of a fee for services rendered and without having any official means of putting the information in question to its proper uses. At Paignton in Devonshire the information has been distinctly refused by the local board, and the time has come when some general action should be decided upon, in view of the attitude adopted by some county councils.

Under the Local Government Act and the Orders of the Local Government Board the local medical officer of health is required to give to the county council or county councils of the county or counties within which his district is situated the same information as he gives to the Local Government Board with regard to any outbreak of infectious disease and to transmit to them copies of his annual report and of all special reports. We need hardly remind our readers that at the Local Government Board all such information and reports are submitted to the judgment of a

skilled medical staff, and since the Local Government Act provided for the appointment by county councils of a medical adviser it may naturally be assumed that it was the intention of the Legislature that these bodies should act in this respect in the same way as the central authority. But the reverse is the case, and a number of county councils, forgetting that it has been held necessary that the public health affairs of each constituent district should be carried out under the guidance of a local medical officer of health, fancy themselves competent without any such corresponding officer to deal comprehensively with the health and sanitary administration of whole counties, and, further, finding themselves in some difficulty because they have no medical adviser, they, in the first place, seek to obtain a great deal of information in excess of that which even the central authority deem necessary, and they then proceed to ask the local health officers to give them for this purpose their gratuitous services. Had they asked the clerks to the various sanitary authorities to compile the desired returns on the same terms the scheme would speedily have collapsed, but medical men have, in dealing with individual cases of health been so liberal in giving gratuitous advice and services that even authorities having all the public rates from which to draw do not hesitate to ask for similar gratuitous help when public questions are involved.

The Devon County Council have even discussed the question of reporting the Paignton Local Board to Whitehall as a 'defaulter,' but the proposal was wisely dropped. Other county councils have made certain representations as to default to the central authority, but we believe we are right in stating that the Local Government Board have never sent one of their own inspectors to investigate the question of default, except in regard to counties for which a medical officer of health had been appointed—that is to say, in cases in which the complaint of the council as to local default in protecting the public health was presumably based on proper medical judgment.

For the present it seems to us that local health officers are entitled to remember that their services belong only by right to the bodies by which they are appointed, and that, except where they desire to assist a colleague who holds the post of county health officer, they should supply to county councils no other information than that required under statute or official order, except on payment for their services, and even then only after having obtained the sanction of their authorities. Some local authorities have felt that the attempt to secure information through their health officer has amounted to an attempt to place that officer in the position of a complainant against the body whom he professedly serves, and they have warned him accordingly. One other point deserves to be borne in mind. Medical members of county councils will, we feel sure, not give such services to their councils as will go to uphold those bodies in their attitude of refusing to appoint a county health officer, and the existence of a medical practitioner, whether retired or not, on a county council should not be regarded as a reason for supplying any such council with information beyond that which it is the duty of a health officer to submit to the county authority.

WHEN a star of chivalry—a GODFREY or a DUGUESCLIN—rode into the lists to fight for his ideal of all that was fair

expressing our thanks to the Presidents of the Royal College of Physicians of London, the Royal College of Surgeons of England and the General Medical Council respectively for their courtesy and kindness in devoting considerable time and trouble to the administration of the Fund. Forms of Application to the Almoners of the Fund will be printed in our next issue.

THE PREVALENCE OF SMALL-POX

SMALL-POX still continues to spread, but with the exception of Manchester, where there are now seventy cases, the attacks in any one town or district are not numerous. The number of attacks in certain given places during the past week was ten at Chadderton, six at Wakefield, six at Liverpool, eight at Southampton, five at Halifax, four at Barnsley, and three at Sheffield. Amongst other places attacked are Batley, Bradford, Brighouse, Derby, Dewsbury, Doncaster, Durham, Newcastle, Huddersfield, Keighley, Leicester, Rotherham, South Normanton, Norwich, Runcorn, Sunderland, West Hartlepool and Warley. In several instances, as for example in Norwich, Newcastle, Doncaster and Durham, the disease has found access to the workhouses, and in a number of instances where hospital provision has long been delayed hurried arrangements are being made for some improvised schemes. At the end of the year there were thirty one small-pox patients under isolation by the Metropolitan Asylums Board. Small pox has now been steadily maintained since last September, and not only does the number of places attacked tend to increase, but the number of persons notified to be suffering from the disease is also on the increase. Notification returns are only available for a limited number of towns, but where they are available they show that a larger number of people were last week suffering from small pox than at any time during the present prevalence except in one single week—viz., when the Warrington epidemic was at its highest.

THE NATIONAL SOCIETY FOR THE EMPLOYMENT OF EPILEPTICS

UNDER this title a Society is being formed which will have for its object the provision of occupation for epileptics who are capable of work, but debarred from finding employment by reason of their affliction. A movement in this direction was commenced a few years ago in connexion with the Charity Organisation Society, when Miss Nina Paget read a paper on the subject, but the matter was not then actively pursued. Early last year, however, the subject was again taken up (with the active sympathy of the Charity Organisation Society) by the late Lady Taunton and by Miss Bardon-Sanderson, sister of the well-known professor of physiology at Oxford. The urgent need of provision being made in this direction had long forced itself upon the attention of these ladies, as a result of their experience in visiting the wards of the National Hospital in Queen Square. They were continually meeting with cases showing the cruel hardship inflicted upon numbers of willing and capable men and women by the nature of the disease under which they were labouring. The committee now engaged in taking the initiatory steps in the formation of a Society which certainly deserves, and we have no doubt will obtain, very widespread support, includes the names of Lieutenant-Colonel Montefiore, Dr Buzzard, Dr Ferner, Dr Howard Tooth, Prebendary Harry Jones, Messrs Pearman and Micholls, and several ladies. An office has been established at 20 Hanover Square, where Dr Low, Secretary of the Society *pro tem* attends daily from 3 to 4 o'clock. Miss Bardon-Sanderson is honorary secretary, her address is Branksome, Fitzjohn's Avenue, N.W. The Lord Mayor has kindly granted permission for a public meeting in support of the National Society for the Employment of Epileptics to be held at the

Mansion House on Wednesday, Jan. 25th. On this occasion it is expected that the objects of the Society will be explained and advocated by the Lord Chancellor, Sir Andrew Clark, Sir Walter Foster, M.P., Mr Haldane, Q.C., Sir James Crichton Browne and others. The subject is exciting great interest and a full attendance at the Mansion House may be looked for. The Society proposes to start in England (not many miles from London) a colony of epileptics who will find congenial occupation adapted to their varying capacities. The advantages of the colony will be obtainable by payment, the rate of which will be generally very moderate, but it is intended in process of time to make provision also for members of a higher class, whose contributions would be a valuable help towards the very large expense necessarily attendant upon the working of a colony of this description.

NEW YEARS HONOURS

WHILE we gladly congratulate Sir Anthony Colling Brownless, the Chancellor of the University of Melbourne, on his promotion, we are compelled to express our regret that there is no indication in the honours list of the national gratitude for the successfully combated invasion of the dire plague which has decimated many towns of Asia and Russia, and notably a great seaport of Europe, and which effected a footing, but, happily, no more than a footing, in our own country. We confess that some more conspicuous evidence of Royal, that is National, recognition of the profession whose duty and honour it is to face the dangers of combat with the King of Terrors, whatever his method of attack, would have been hailed by us with pleasure. Were we cynically inclined we could recall that wisdom of our folklore which notes the sanctifying influence of adversity and the tendency for saintliness to disappear on the disappearance of danger.

THE BREAK-DOWN OF THE "UMBRIA"

THE mishap which overtook the *Umbria* in mid-Atlantic and occasioned widespread alarm both here and in America, though now happily passed, has emphasised the serious peril which is involved in trusting to the capabilities of a single propeller however excellently constructed and skilfully worked. A break-down must occasionally happen whatever measures may have been taken to prevent it and then if no provision has been made for efficiently navigating the disabled ship an emergency arises which is most painful to contemplate. In some of the best ships afloat the propeller consists of twin screws, and if one should become incapacitated the other can still be relied upon with no worse result than some small delay. We believe that we are correct in stating that upon one of the voyages which the *City of New York* made last year one of her screws became disabled, but the ship, instead of becoming unmanageable, was propelled by the uninjured screw alone at a rate of seven teen knots an hour. If this be correct, surely no sea-going steamer should be built without this most necessary equipment of duplicated propelling machinery.

ABUSE OF HOSPITALS ABROAD

THAT this is not the only country where hospitals intended for the poor are made use of by the well-to-do is shown by a report which has been laid before the Paris Municipal Council by the Seine Medical Association, which collected various facts relating to the abuse of the Paris hospitals. On interviewing the officials of the Assistance Publique the representative of the *Temps* was assured that precautions are taken which necessarily render such abuses exceedingly rare. It was explained that though every patient whose case is grave is admitted to the hospital, inquiries are made by the administrative agents. If any are found not to be in

original on the opposite page. It is astonishing how soon a little perseverance in this practice enables the reader to break through the crust of a foreign tongue and acquire idiom and vocabulary enough to dispense with the translation and make his way through the original text. After this, to perfect his knowledge with a grammar is an affair of "leaps and bounds." There need be no difficulty in selecting a book in Italian, rich as the language is in translations of standard English medical works, to which the reader will come already more than half prepared. The Neapolitan school has signalled itself by its wealth of English medical literature transferred to Italian, any volume of which, begun by the British student on the method we have indicated, might form an easy and effective introduction to the language. Here too the much maligned "Latin fetish" intervenes as a positive "*Deus ex machina*" and proves to its erstwhile unwilling votary a blessing in disguise. That the course we have recommended is practicable even for the busy teacher or consultant Lord Dufferin has shown in his memorable discourse to the St Andrews' students in April, 1891. That, abroad at least, it is constantly pursued is seen in the autobiographical allusions of such men as Donders and Moleschott in medicine and Prince Bismarck in diplomacy. Once acquired, the language need not be dropped, but may be used in intercourse, scientific and social, ay, even in consultation with the foreign physician at one or other of the many Mediterranean or Alpine health resorts. Even for its own sake, as Mr Gladstone reminded us the other day, Italian is a precious acquisition. "I will contend with you from morn till dewy eve," said the right honourable gentleman to the late Sir William Gregory, who was urging the superior claims of German, "that Italian does more for the mind." To this contention our own profession can supply auxiliaries, even from the medical commentators and interpreters of Dante himself. But, not to digress further and to return to our theme, there can be no doubt that those who assist at the next great parliament of the healing art will have special reason to congratulate themselves on whatever acquaintance they may have cultivated with the *genua loci* and its language.

OUR HOMELESS AND NOMADIC POOR

THERE are three groups of the above—the first typified by the vagrant, the second by the huckster, the third by the gipsy. The vagrant is absolutely homeless, leading an "any port-in-a storm" life, and as the day closes "making a bee line" for the casual ward. The huckster practises as a Jack of all trades, but posing as a specialist in the most lucrative one goes about in the van which is his home. The gipsy is the nomad, "pure" if not "simple," living in tents or bivouacking in sheltered nooks or under the brushwood of commons or moors. Numerical division of these groups is not easy, but the extent to which their mode of life creates varieties of disease or favours diffusion of the same admits of a readier answer. The vagrant whose native imbecility or inveterate indolence makes of life one "long strike" is seldom the prey to acute disease. He is short-lived and becomes prematurely old, but, in spite of the precarious conditions he "enjoys," he is generally exempt from epidemic or zymotic affections and particularly free from phthisical and such like ailments. But does he spread contagion? At first sight he seems specially qualified for this rôle. He travels up and down the country, he is uncleanly in his habits, he often wears the cast-off raiment of infected people, he not seldom herds together with others under a common roof. With all this he is not a disseminator of disease—not certainly in the sense in which school children are. The huckster in all the above respects exhibits a marked contrast to the vagrant. Epidemic ailments are frequently his portion. His children are often

scrofulous, feeble and radically unhealthy, the adults especially being victims to "the most fatal of all English diseases—consumption." Dr B W Richardson (to whose masterly memoir on the subject we owe much information), when physician to the Royal Infirmary for Diseases of the Chest, treated in the course of a few years nine phthisical patients all from one travelling van. Other thoracic diseases—asthma, bronchitis, cardiac affections—prevail among the huckster group, a prevalence which the same shrewd observer associates with their generally intemperate habits. The gipsies, finally, are "constitutionally a very healthy race"—more exempt from the fatal diseases that thin the community than any other class. This exemption, says Dr Richardson, whose knowledge of them and their ways is perhaps unique, is coincident with their retaining "their original nomadic mode of life." Once let them mix and live with the people generally and they suffer like their neighbours. Their most common enemy in the outdoor life they lead is rheumatism. Of an epidemic of variola among gipsies Dr Richardson has never heard, nor has he seen one of them pitted with small pox. In 1851 there was a severe outbreak of scarlet fever at Barnes, near which place he was practising, and at the same time and place there was a populous gipsy camp, but among their numerous children there was not a single case. One element in their favour seems to be their temperance, which also explains the considerable longevity which they reach. Their lives and characteristics, from a hygienic point of view, confirm the induction that "as soon as men begin to aggregate in close localities without due and proper sanitation and with too great a command of 'creature comforts' they contrast indifferently with their seemingly less favoured brethren who are content to confront nature in her wildest moods."

THE LANCET RELIEF FUND

THE fourth annual report of the Almoners of this Fund, which appears in another part of our present impression, affords, we venture to think, most gratifying evidence of timely help extended to recipients for whom it would be impossible not to feel in any case the very warmest sympathy. The interesting selections of extracts which they publish, from letters received by them, will give some idea of the various and pressing nature of the necessities to which they have ministered. The considerable number of the applications received on behalf of persons to whom no assistance could under the rules of the Fund be given is proof that the objects which it is intended to serve are still imperfectly understood. These objects are restated fully and clearly in the report, but it may be as well to mention here that, shortly and without any attempt at precision, it may be said that the cases with which the Almoners can deal are those, and those only, in which a pressing and temporary need has arisen which can be effectively met by the grant, as gift or loan, of a small sum of money, it being of course understood that the benefit is restricted to registrable medical practitioners and persons legitimately dependent upon such. No rigid limit has been placed upon the amount of the grant, but the present financial statement exhibits what is, we believe, the largest sum ever yet allotted to a single case, the amount being £50 granted by way of loan. It is another distinguishing feature of the present report that the sum provided for the service of the Fund during the year has been slightly exceeded, the expenditure being £304, whereas the income is £300. It is, however, very satisfactory to find that the means in this way provided for dealing with a particular class of calamity have been so closely approximated to the necessity provided against, as this statement shows. We desire to take the present opportunity of

servation from as pure a source as possible must not there fore be overlooked. According to recent reports it is liable to be entirely disregarded. One correspondent indeed speaks of ice being procured from a spot which forms the customary grave of dead cats, dogs &c. for the district. It is to be hoped that sanitary authorities wherever they have reason to suspect the occurrence of such a breach of wholesome rule, and indeed of ordinary common sense, will act with energy and repress the dangerous practice.

THE CHARITABLE BEQUESTS OF 1892

THE *Charity Record*, reviewing the charitable history of 1892, finds that the year has been distinguished by some very liberal bequests for the benefit of the sick, the poor and the aged. We cannot afford space to enumerate these, but the mention of the fact may stimulate others to make 1893 yet more distinguished. Rich men need not wait till they are dead to enrich the poor and to provide the sick with comfortable beds. It will immensely add to their own pleasure while they live to see the actual advantages of their liberality.

INFECTION BY MILK-SUPPLY

AMONG other possible sources of morbid contamination the dairy must not be forgotten, though we have happily ample reason to congratulate ourselves upon the comparative infrequency with which it has been found guilty of acting as a means of propagating disease. We cannot, however, blink the fact that it has thus acted. Establishments of this class, like any other, are of course liable to suffer from errors of drainage and impure water supply. Mention has recently been made also of the transference of disease by the milk-can, and it has been suggested that here we have to deal with an imaginary cause of mischief. We would not wantonly question the care ordinarily exercised by dairy men in cleaning their cans, but we are nevertheless unable to deny the possibility of contamination in the manner suggested.

SMALL-POX IN GLASGOW

THE last two cases which occurred in Glasgow were imported ones and were admitted to Belvidere Hospital on Dec 24th and 26th respectively. One was a navy, who appears to have contracted the disease in Edinburgh and was taken ill in a hut on the West Highland Railway tract at Ardher, by Loch Lomond, in Dumbartonshire. Most of the inmates of the hut accepted revaccination, two had already had small pox and all are being kept under observation with the exception of two who had gone on tramp after exposure to risk of infection and who are being searched for by the police. The other case admitted into Belvidere Hospital is believed to have been infected in Manchester.

DANGEROUS DRIVING

NOT even a cabman, however busy, will dispute the justice of the rule which obliges him to slacken speed at street crossings and points at which lines of traffic meet within a limited area. There is an obvious necessity for such regulation. "Furious driving" anywhere is subject to the same wise restriction. Unfortunately, however, such a term as this is a comparative one, and, as the sequel shows, it is liable to serious misinterpretation. Only the other day a hansom driver was thus briskly traversing Old Broad street, when in a careless moment the lash of his brandished whip flicked the eye of a pedestrian. The suffering thus occasioned may be imagined. Perhaps there is no form of injury which is, for its size, of more critical purport than an abrasion of the conjunctiva. Treated at once, it will probably do well, neglected or but half treated, as more commonly happens, its issue as regards the eye itself may be of the

most ruinous character. The fact that the injury has been inflicted by a dirty whip-lash will not tend to brighten the prospect of recovery. With such details of practice, however, we are not immediately concerned. Prevention is in this case both needful and feasible, and it is to be hoped that local civic authorities will use every possible means to remove the cause of this danger by moderating within due limits the driving pace allowed in all busy thoroughfares under their control.

TAKING THE OATH WITH UPLIFTED HAND

AT an inquest held on Dec 30th at Guy's Hospital Mr H. E. Durham, the house surgeon, objected to kiss the Bible in use on the score of possible infection and was sworn with uplifted hand. Mr Fredk. Charles Young, the house physician, who gave evidence in a second inquest, was sworn upon a new Bible. We may again remind medical witnesses that anyone who desires to swear with uplifted hand is not bound to give, nor is anybody at liberty to ask, his reasons for so doing.

THE PROJECTED NEW BOROUGH HOSPITAL FOR LEEDS

THAT intelligent "self help" which has done so much for the Anglo-Saxon in the past, whether at home or abroad, finds collective expression in the municipal life of the country. A common danger threatens a community, and like a fortified town of former times the drawbridge is lifted and the walls manned, the danger faced and means adopted for resisting the enemy, without a precipitate appeal to the central government, as in more bureaucratic States. Together with independence, however, the Leeds corporation has coupled intelligence in action. A sanitary committee duly appointed, and accompanied by Dr Cameron, the medical officer of health, has examined with care similar institutions at Hull, Newcastle, Glasgow, Nottingham and Bradford, before deciding upon the special form which their own hospital is to take. We learn that the committee meanwhile seems to favour a system of numerous pavilions which experience and scientific considerations alike undoubtedly indicate as the most suitable for the proper isolation and treatment of cases of infectious disease.

THE WEATHER AND PNEUMONIA

THE effects of various meteorological conditions upon the development of croupous pneumonia are discussed in considerable detail in Dr P. J. Kolski's graduation thesis in the University of Moscow. He gives statistics of the disease and of the different meteorological conditions in Moscow for many years past, together with elaborate coloured diagrams. He believes that though changes in the weather may not be the main cause of pneumonia, as they were at one time thought to be, still the modern tendency to ascribe everything to bacteria is to be resisted, for, according to his researches and observations, meteorological variations certainly play a not unimportant rôle in the etiology of the disease. Generally speaking it may be said that abnormal weather is favourable to the development of pneumonia. The greatest number of cases has been found to occur in Moscow under the following conditions: a temperature lower than usual with very few diurnal variations, abnormally high barometric pressure, a north wind of less than its ordinary force, and a small amount of rain or snow. Dr Kolski does not agree with Seibert that pneumonia is especially rife when there is an absence of parallelism between the temperature curve and the curve of relative humidity and he considers that the common opinion that strong winds are favourable to pneumonia has no foundation, for, as a matter of fact, the years when the wind has been high have been the very years during which there has been but little pneumonia.

necessitous circumstances and it is impossible to remove them, they are obliged to pay during the time of their residence in the hospital, if it is possible to remove them it is suggested to them that they should return home to be treated and leave room for those who are necessitous. The number of paying patients is limited. As regards out-patients, all applicants are admitted whose general appearance indicates that they are not well off, but they do not receive gratuitous medicine except in the special hospitals. In Belgium, according to *Le Scalpel*, it is quite a frequent occurrence for well to do people to come in their carriages from the country to the hospitals and to obtain not only advice but medicine gratuitously, thus injuring both the medical practitioners and the druggists.

THE RIGHT HON THOMAS HENRY HUXLEY

IN our notice of the honours conferred last year on members of the medical profession we inadvertently omitted the fact of the admission of Mr Huxley to the Privy Council. The Privy Council has not the same powers which it once had in English history, but it is still a body charged with certain important duties, administrative and judicial. The Medical Acts, the Dentists Act, the Pharmacy Act, the Destructive Insects Act, the Contagious Diseases (Animals) Act, the Veterinary Act—all involve the action in certain contingencies of the Privy Council. The Council has important duties in reference to the Universities and to elementary education. The addition of Mr Huxley to such a body is an obvious advantage, for which the public will be grateful to Lord Salisbury. It is besides a proper compliment to one who takes a deep interest in education from its most elementary to its most advanced forms and who in many respects is the most conspicuous and courageous scientific man of the country.

DIPHTHERIA AND BOARD SCHOOLS

THE interesting inquiry into the sanitary condition of the Yerbury Road School was resumed last Friday. The case for the defence was that, though the drains of the school were not absolutely perfect and were not free from some slight oozing when the water test was applied, yet that they were practically sound and sufficient. The pipes were laid in stiff clay and there was no possibility of any noxious gas escaping through any defective joint into the school. Dr Smith on two occasions made an investigation into the state of the school and on both came to the conclusion that it was unnecessary to close the school. He had been in close consultation with Dr Tidy, who pointed out that diphtheria was prevalent throughout a large area of the parish. The pipes were laid at a gradient of 1 in 400 feet for only a part of the distance—viz, 37 feet. He admitted in cross examination that some of the pipes leaked and that personally he would never have passed a drain that was laid in varying gradients. The interest of the case now rests in the visit of the magistrate to see the drains and in his judgment, which will be delivered on Friday, the 6th inst.

LECTURES AT THE ROYAL COLLEGE OF SURGEONS OF ENGLAND

THE following are the lecture arrangements at the Royal College of Surgeons for the coming year. The first course of lectures will be given in the theatre of the College at 5 P M precisely. Professor O B Plowright will lecture on the Action of Fungi on the Human Body on Monday, Wednesday and Friday, Feb 6th, 8th and 10th. Professor H J Campbell will give three lectures on Monday, Wednesday and Friday, Feb 20th, 22nd and 24th, on Intestinal Parasites belonging to the class Nematoda. Professor B T Lowne will give three lectures on Monday, Feb 27th, and Wednesday and Friday, March 1st and 3rd, on the Physio-

logy of the Respiration, Circulation and Nervous System of some Invertebrata. Professor Charles Stewart will lecture on the Physiological Series of Comparative Anatomy in the Museum of the College on March 6th, 8th, 10th, 13th, 15th, 17th, 20th, 22nd and 24th. The second course of lectures, to be also delivered in the theatre of the College at 5 P M, on Mondays, Wednesdays and Fridays, is as follows. The Physiology of the Kidney, by Dr J Rose Bradford (Arris and Gale Lecturer), on May 29th and 31st and June 2nd. The Pathology of Tumours connected with the Bladder, by Mr J H Targett (Erasmus Wilson Lecturer), on June 5th, 7th and 9th. Injuries to the Epiphyses and their Results, by Professor J Hutchinson, jun, on June 12th, 14th and 16th. The Surgery of the Air Passages and Thorax in Children, by Professor Bernard Pitts, on June 19th, 21st and 23rd.

A MEDICAL CENTENARIAN

DR. SEVERIN WIELOBYOKI, formerly a Polish refugee and subsequently a naturalised British subject, who has been a resident in St John's Wood for some twenty seven years since his retirement from practice, will complete 100 years of life on Jan 8th. He has had a useful and romantic history and is to be entertained at a centenary reception by the President and Council of the Society for the Study of Inebriety on Jan. 10th, in the rooms of the Medical Society of London. Addresses will be presented from various public bodies and members of the Legislature and of the medical profession taking part in the proceedings.

A VICTIM TO SMALL-POX

NEWS reaches us to the effect that Mr William Summers M P for Huddersfield, has fallen a victim to malignant small pox at Allahabad, India. It is painful that men of promise, such as he was, should be thus cut off in the prime of life by one of the most preventable of all diseases affecting man, but it is even more painful when such a calamity is associated with an attitude such as he had taken, and which in itself doubtless stood in the way of his availing himself of a renewal of that protection against small pox which is afforded by a comparatively recent revaccination. We do not know precisely what views Mr Summers held on the subject of vaccination, but he was an avowed advocate of the anti vaccinationists in the House of Commons, and during the past session he put a number of questions to Mr Ritchie on behalf of that section. His last appeal was on May 12th, when he sought to press the question of legislation adverse to that which now exists as to vaccination. Even if, like some others who ask similar questions, he was not altogether an unbeliever in the power of vaccination to protect against small pox, his attitude was hardly one which could be regarded as consistent with resort to the only protection which could have availed to save life from this loathsome and formidable disease.

THE SOURCES OF OUR ICE SUPPLY

THE application of cold has by common consent been accepted as the best method of ensuring the preservation of dead animal or vegetable substances, and ice as the means best adapted to this purpose. In other words, extreme cold is incompatible with putrefactive or other bacterial action. This fact in some degree does away with the necessity for using in order to effect this purpose no ice but such as is itself free from any organic impurity. Only in a measure, however, for it has been repeatedly shown that bacteria, notwithstanding their inaction, can preserve their vitality at very low temperatures, while the alkaloid poisons developed by them are not in any way attenuated as to their virulence by any such variation in surrounding physical conditions. The return of a suitable temperature restores their opportunity, and a morbid process is bound to follow. The necessity of obtaining ice to be employed for meat pre-

THE LANCET

Special Analytical Commission

ON

MINERAL WATER MACHINERY AND METALLIC CONTAMINATION

It is well known that a solution of carbonic acid gas in water behaves as a feeble acid, and it has been assumed therefore that true carbonic acid H_2CO_3 is formed. This view is supported by experimental observation. The mass of carbonic acid, for example, dissolved by water at ordinary temperature and pressure increases as the pressure, but at a pressure of two, three or more atmospheres the mass of CO_2 dissolved is less than that calculated by the laws of Henry and Dalton. When the pressure, acting upon water which has been saturated with CO_2 gas is diminished, most of the CO_2 escapes, at first rapidly then slowly, the last traces of CO_2 can only be removed by placing the water *in vacuo* or by continued boiling. A striking piece of evidence in favour of this view that H_2CO_3 exists is afforded by the fact that the metal magnesium reacts with a solution of CO_2 in water as though a free acid were present, hydrogen being evolved and magnesium carbonate formed in accordance with the requirements of the following equation— $H_2CO_3, Aq + Mg = MgCO_3 + H_2$. Still further evidence towards this view is furnished by the fact that water holding in solution carbonate of sodium or potassium dissolves considerably more CO_2 than pure water, definite salts known as bicarbonates being produced, $NaHCO_3$ and $KHCO_3$. Blue litmus again, turns wine red in aqueous solution of CO_2 , the blue colour returning on exposure to air, but in contact with the moist gas at pressures only of one to two atmospheres it becomes vermilion red as though it had been exposed to a mineral acid. The affinity or combining power of CO_2 is, however, small, for the carbonates which in this respect simulate the sulphites (SO_2 derivatives), are readily decomposed by the common acids.

If water saturated with CO_2 gas under pressure contains true H_2CO_3 , then some explanation of its action upon many metals based upon this hypothesis might be expected. A short time since some experiments were instituted in THE LANCET laboratory to ascertain which metals and especially which of those used in the manufacture of beverages, are acted upon by carbonic acid. For this purpose pure specimens of lead, tin, copper, antimony and iron were selected. Clean bright pieces of the metals were placed in ordinary water, CO_2 was bubbled through for some time and the solution then decanted, filtered and examined. The following observations were made—Lead was dissolved in considerable quantity as carbonate, the metal showing unmistakable signs of corrosion, and on boiling the solution a precipitate consisting of basic carbonate subsided. Tin did not appear to undergo the slightest change and the liquid when tested gave only a faint and doubtful reaction. The water containing the copper strip gradually assumed a green colour and on boiling the filtered solution a considerable precipitate of green copper carbonate was obtained, just as on boiling the CO_2 out of hard water chalk ($CaCO_3$) is precipitated. Zinc was even more energetically attacked, it became covered with a loosely adherent white powder and the filtered solution gave strong reaction for zinc, while zinc carbonate was abundantly precipitated on boiling. Antimony was found to dissolve to a slight extent only, and this did not appear to be influenced by the CO_2 , as it was also found to dissolve in small quantity in water not charged with CO_2 . Iron was strongly attacked the solution on boiling giving a dirty reddish brown precipitate. No precautions were taken to exclude air from the water through which the CO_2 gas was bubbled.

It seems evident from these experiments that ordinary water containing an excess of carbonic acid gas is capable of taking into solution distinct quantities of lead, copper and zinc, but not tin—possibly carbonates are formed which dissolve in an excess of CO_2 . Although in the case of magnesium (vide *supra*) hydrogen is evolved, no hydrogen was evolved in the above experiments, the CO_2 would therefore seem to act as

a feeble acid upon a film of oxide of the metal formed by the action of the oxygen in the water, unless it is that hydrate is first formed (as might be the case, more particularly with lead), which is then rapidly converted into soluble carbonate by the excess of CO_2 . Precisely similar actions occur of course with the mineral acids. Thus, while hydrochloric acid does not dissolve copper, it readily dissolves the oxide or hydrate forming copper chloride. Acetic acid, again, rapidly dissolves oxide or hydrate of lead forming acetate, but the pure metal is unaffected.

In the laboratory during the ordinary course of analytical work we have invariably found traces of copper in soda water, but, although there are instances on record of lead having been found, we have never met with a single sample so contaminated. Copper, for various reasons, is in fact, largely employed in the construction of aerated water machinery. According to our experiments, however it would be better to employ tin, and then contamination of aerated water with injurious metals would be entirely avoided. But tin is not so workable as many other metals, it is too soft for some uses and too brittle for others, while it is very expensive. In spite of these drawbacks, however, we have recently inspected some soda water machines in which it is impossible for the water to come in contact with any other metal than the purest tin, and tin is for all practical purpose as good as the noble metals gold, platinum and silver. Even the joints in these machines are thickly lined with tin, and all leading pipes are made of block tin. We visited the premises of the well known engineers Messrs Hayward Tyler and Co., of 90 and 92 Whitecross-street, E.C., where these machines are being made. The condensers of these machines, in which the carbonated water is contained under pressure before being drawn off into bottle, are made of copper thickly lined inside by a special and ingenious process with the purest grain tin. Larger condensers are made of best gun metal, in which case they are silvered. The water is conveyed into and from this condenser also through tin piping, the joints of which are of the same metal. We secured samples of the metal so used, and also a specimen of syphon heads which was sent to THE LANCET laboratory and examined. About the purity of the metal used for the lining process there can be no doubt whatever, for the mean result of several analyses gave the quantity of chemically pure tin as 99.90 per cent. Water saturated with CO_2 was then placed in a copper cup similarly lined with tin and specially made for the purpose of these experiments, and left for several days. The metal showed no signs of deterioration, while the minutest test failed to indicate even the smallest quantity of metal in the liquid. The syphon head was found to consist also of tin, with a small proportion of antimony the antimony being used in order to make the heads durable, but it is important to add that neither lead nor copper was found in any single instance. It may be remarked that copper or other metal tinned in the ordinary manner is not satisfactory and once the copper is exposed the solvent action proceeds with comparative rapidity. But in the machinery made by Messrs Hayward Tyler and Co a definite thickness, one-eighth of an inch perhaps, is laid by a special process upon the metal, so that flaws due to excessive thinness of the coating are not possible, the "life" of the apparatus is thus almost indefinitely prolonged.

Soda water machinery has been brought during recent years to a marvellous pitch of perfection, and it is doubtful whether any other industry has made such rapid strides in so short a time. But the recent improvement which Messrs Hayward Tyler and Co have effected is one entitled to the greatest praise, inasmuch as its object is to secure a greater degree of purity in a beverage that is very generally consumed. It must be admitted that the introduction of plant that will turn out 150 dozen of soda water per hour, about which there cannot possibly be the slightest suspicion of metallic contamination, is a distinct advance and one calculated not only to confer benefit on the community, but also to add considerably to the interests of the mineral water industry.

PRECAUTIONS AGAINST CHOLERA.—In order to promote uniformity of action on the part of the various port authorities of England in view of the possible appearance of cholera this year a conference of delegates has been arranged by the Port of London Sanitary Committee. The meeting will be held at the Guildhall at an early date, under the presidency of the Lord Mayor.

MICRO-ORGANISMS OF ULCERATIVE ENDOCARDITIS

A PAPER on the above subject appears in the *Lyon Médicale* of Dec 18th, 1892. The case upon which the observations were made was that of a girl aged nineteen. The diagnosis was confirmed on post mortem examination. In order to procure the organisms one of her fingers was carefully cleansed, first with soap and water, then with ether and finally with corrosive sublimate solution, a drop of blood was obtained by pricking the finger with a sterilised needle and placed in bouillon. The culture medium was kept at a temperature of 35° C, and rapidly became cloudy. On microscopic examination a diplococcus was found rather larger than the staphylococcus pyogenes. The elements of the diplococcus appeared occasionally to be single, but they never formed in chains or in groups. They did not possess a capsule. The organism stained well with all the aniline dyes and also by the Gram method. It could be cultivated at any temperature between 13° and 14° C. The cultures in bouillon very quickly caused a turbidity in, and gave a well marked yellow tinge to, the liquid. The culture obtained its maximum of growth in about forty eight hours, but ceased to increase in about seven or eight hours after that time. A copious yellow deposit formed on standing, but the supernatant liquid remained cloudy. Cultures on agar agar glycerine grew rapidly, and well marked colonies were observed at the end of twenty four hours at a temperature of 37° C. On the surface of the cultivating medium a very slight white pellicle was noticed with somewhat festooned borders, this appearance extended into the agar agar. If a culture was made by running the needle deep into the agar agar, a white streak was produced in the course of the needle, but it presented nothing which could be called characteristic. On gelatine the diplococcus did not grow so well—the gelatine was not liquefied. Occasionally on the surface a pellicle similar to that produced on agar agar was noticed. In plate cultivations this was shown to consist of minute, opaque, yellowish white colonies. A rabbit was inoculated with a broth culture, but no effect was produced. The animal was killed on the tenth day, but no lesions could be detected.

FOREIGN UNIVERSITY INTELLIGENCE

Florence—Professor Celso Pellizzari of Pisa has been appointed to the chair of Dermatology and Syphilis in succession to Dr Pietro Pellizzari, deceased.

Leipsic—Dr Spalteholz, formerly assistant to the late Professor Braune, has been raised to the rank of Extraordinary Professor.

Lemberg—Dr L. Niemilowicz has been appointed Extraordinary Professor of Pharmacognosy.

Marburg—Dr Eugen Korschelt of Berlin has been appointed Professor of Zoology and Director of the Zoological Institute.

Pisa—Dr G. Guarnieri has been promoted to the Ordinary Professorship of General Pathology.

Santiago (Chile)—Don F. Paelma Tupper has been appointed Professor of Experimental Physiology, Don Aureliano Oyarzún, Professor of Morbid Anatomy, Don L. Espejo Varas, Professor of Therapeutics and Materia Medica, and Don Francisco Servat, Professor of Organic Chemistry.

Toulouse—M. André has been appointed Professor of Internal Pathology.

Turin—Dr Camillo Negro has been appointed *privat-docent* in Neurology.

DEATHS OF EMINENT FOREIGN MEDICAL MEN

THE deaths of the following distinguished members of the medical profession abroad have been announced—Dr Bonalumi, Professor of Military Hygiene in the Florence

Medical School—Dr Reeves Jackson, Professor of Gynaecology in the College of Physicians and Surgeons, Chicago.—Dr Jas R. Leaming, Professor of Pulmonary Diseases in the New York Polyclinic.

THE Royal Academy of Sciences of Turin have announced that the competition for the Bressa Prize, commenced on January, 1891, will extend to December, 1894. As is already known, the prize will be given to the scientific author or inventor, whatever may be his nationality, who during the interval included in the four years mentioned shall have made, in the judgment of the Academy, the most important and useful discovery or published the most valuable work on physical and experimental science, natural history, mathematics, chemistry, physiology and pathology, geology, history, or geography and statistics. The value of the prize is fixed at 10,416 francs. The works must be printed, and the productions of the unsuccessful candidates will be returned to them.

THE following gentlemen have during the last month been selected for enrolment as Honorary Associates of the Grand Priory of the Order of the Hospital of St. John of Jerusalem in England, by the Chapter of the Order, in recognition of valuable and gratuitous services in the cause of ambulance work, and their selection has received the approval of Her Majesty the Queen, the sovereign head and patron of the Order. Frederick Gordon Brown, M.R.C.S. (City of London), Samuel Osborn, F.R.C.S. (London), Geo. Edward Shuttleworth, M.D. (Lancaster), Thomas Coke Squance, M.D. (Sunderland), George Arthur Barr, M.R.C.S. (Newport, Isle of Wight), Professor John Chiene, M.D. (St. Andrews Ambulance Association, Edinburgh).

PROFESSOR NATHANAGEL of Vienna, the worthy successor of the illustrious Professor Bamberger in the chair of Clinical Medicine, has just intimated to the organising committee of the International Medical Congress that he will contribute a special paper to the agenda of one of the general sittings.

THE Lettsomian lectures will be delivered at the Medical Society of London, Cavendish square, by John Syer Bristowe, M.D., F.R.S., on Jan 9th and 23rd and Feb 6th, 1893, at 8.30 P.M., on the subject of Syphilitic Affections of the Nervous System.

THE General Medical Council has appointed Mr Rawdon Macnamara to be visitor of the examinations of the English Universities and the medical corporations in Ireland for the current year.

THE MEDICAL OFFICERS OF SCHOOLS ASSOCIATION.—On Friday next, Jan 13th, a general meeting of this Association will be held, at 3.30 P.M., in the rooms of the Medical Society, Chandos street, Cavendish square. The President, Dr W. Howship Dickinson, will occupy the chair, and a paper on the Disinfection and Treatment of Scarlet Fever by Antiseptic Inunction will be read by Mr J. Brendon Curgenven. The meeting will be open to all medical men who take an interest in the subject of the paper and they will be invited to join in the subsequent discussion.

LITERARY INTELLIGENCE.—A new medical monthly entitled *Annales Médico Chirurgicales* has just been commenced under the auspices of a Belgian Medical Society, Le Cercle Médical Borain. It is principally devoted to clinical observations made by the members—Havana (Cuba) has just produced a new monthly—*La Abeja Médica* (the Medical Bee). It is edited by Dr Gustavo López y García. The specimen number which has been sent to us contains, amongst other articles, an illustrated paper on Deformed Skulls of Carribean Indians in Cuba and St. Domingo, by Dr Sotolongo y Lynch.

absolutely no action, but that menthol, on the contrary, even in very small doses, arrested the abnormal action of the yeast. Finally, in another series of experiments made with the grains of rye Dr Herz found that the temperature of those vessels which were infected with putrid matter was higher than that of those which contained rye germinating in the ordinary way.

LOSOPHAN

Losophan may be looked upon as a tri iodide of cresol. It contains 80 per cent of iodine and is soluble in alcohol and readily taken up by fatty substances. Dr Snielfeld¹ finds a 1 per cent ointment exceedingly valuable in skin diseases due either to vegetable or animal parasites, as tinea tonsurans and pityriasis versicolor, for pediculi capitis and pubis, 25 per cent of vinegar is added to the ointment, and in the case of scabies a stronger preparation is employed containing 2 or 3 per cent of losophan. In chronic skin infiltrations an ointment of the strength of 1 or 2 per cent. was very useful, but in acute eczema it appeared to be irritating. In prurigo sycoide vulgaris, acne vulgaris and rosacea, and in pruritus it was very effectual. It appears to be of little use, however, in gonorrhea or urticaria and is contra indicated in acute inflammatory affections of the skin.

THE ORGANISATION OF MEDICAL RELIEF IN THE METROPOLIS

By F J MOUNT, LL.D., M.D. EDIN., F.R.C.S. ENG.

I

' Finis coronat opus.'

FOR more than a century past what is now known as the "hospital question" has excited interest and attention throughout Europe, and particularly in France and England. Works of high authority have been written on the subject based upon the personal and practical experience of distinguished members of the medical profession closely connected with the study and practice of the healing art in its application to the relief of sickness and injuries, and the advancement of the science of which it is the outcome. It has also attracted, particularly in our own country, the earnest sympathy and active support of those philanthropists who have laboured much amongst the poor, and know what misery and suffering are endured by them from causes mostly beyond their control, when struck down by accidents or diseases which imperil their lives, temporarily or permanently impair their usefulness, and in too many cases break up their homes, subjecting their families and themselves to the pains and penalties of destitution.

I hold it to be imperative upon all engaged in the consideration of questions of such magnitude and importance in their social and scientific relations to study carefully their history before attempting to suggest remedies for the removal of such defects in their working as diminish or destroy their usefulness, and to introduce such improvements as experience and the advance of science may suggest.

From our national and healthy proclivity and propensity to self reliance in all difficulties and dangers to assist ourselves and to deal by voluntary effort, whenever and wherever practicable, with such evils as are susceptible of mitigation or removal in our social system, the charitable aspect of medical relief has naturally become one of the leading factors in the assistance of those who are unable to assist themselves, when compelled to resort to public institutions for relief in sickness. I regard the collection of funds for the maintenance and proper working of hospitals as the first step of importance in the proceeding, and not the be all and end all of its disposal, which, in my humble opinion as a hospital physician and administrator in the early years of my official career is the successful treatment of disease, the provision of relief to the really poor immediately it is required, and the advancement of medicine in its curative preventive and educational aspects. If private charity is unable, in the exceptional vastness of the greatest number of human beings ever collected in a restricted space to provide the means of accomplishing all that is expected—nay, even demanded—from it in existing circumstances, is there no *via media* by which State aid and private benevolence may not join hands to complete the work without violating the sound economic principles on

which both are based? This is a question which I shall consider further on. My present object is to give a necessarily brief *résumé* of the history of hospital management in the present and past century by a notice of a few of the works which have exercised the greatest influence upon it.

The earliest authority of repute who has dealt with the whole question in a strictly scientific and practical manner, is M. Tenon in his "*Mémoire sur les Hôpitaux de Paris*." He was an eminent professor of pathology, who was selected to report upon the reconstruction of the Hotel Dieu after its destruction, and his work was published in 1788, a little over a century ago. After obtaining all the information he could procure on the hospitals of Italy and Germany, he came to England, was in personal communication with the leading medical authorities of the time and visited most of our best and greatest hospitals, which he evidently examined with scrupulous care. He was much struck with the hospital at Plymouth, built upon the pavilion principle and devoted to the treatment of 1200 inmates. His inquiry was devoted principally to the management and structural arrangements of all these institutions, and on his return to Paris he embodied the results of his observations in his celebrated work, in which every branch of the subject was specially treated. He regarded the Plymouth Hospital as

"le plus bel et plus parfait pour sa destination" which he had visited and throughout his treatise evidently refers to much of what he had seen, but guarded himself from expressing approval or disapproval, on the ground that in all cases hospitals must fulfil their special purposes, subordinated to conditions of climate, surroundings, manners and customs and all other details which must be in harmony with the national peculiarities of each country and people. His work was approved of by the Academy of Sciences and of Surgery, and pronounced in its construction and arrangements to have omitted or forgotten nothing while nothing in it was out of place. His work may still be studied with advantage, for in his own country it has continued to exercise considerable influence, and has not been without effect upon our own.

In this country, in 1796 an eminent surgeon and earnest philanthropist Sir William Blizard of the London Hospital made a partially successful attempt to point out for correction some of the most prominent technical and general defects in the then existing hospitals. His contention was contained in a few brief notes was restricted in its scope, and attempted no systematic view of the subject. Such as it was, his action was in advance of his time. In another paper, entitled "*Propositions for promoting the Usefulness and Prosperity of Hospitals and other Public Charities*" he advocated the formation of a "*mutual aid society*" to harmonise and connect the actions of the managers of hospitals and other charitable institutions by an annual stocktaking of their respective charges with a view to remedy imperfections and errors and introduce such changes and improvements as seemed to be desirable after personal examination and discussion.

This sound and sensible proposal was suited to the character of the time, but although correct in design, it failed in execution. Sir William Blizard considered that hospitals, being strictly public institutions whatever their endowments had public duties to perform and were thus directly responsible to the public for their acts. Hence he was of opinion that their removal from public control was injurious to them, as when societies intended for general benefit become wholly independent of public opinion there would often be "a disposition to abuse the means at their disposal, so that with private interests as a ruling principle of action the expectations of science and humanity are disappointed." He also indicated the fallacy of parading numbers as tests of success, and pointed out more than one practice which needed amendment then and some of which are still in existence and need it as much now.

The subjects of hospital reform and of Poor-law reform received vigorous treatment from the pen of Thomas Wakley the founder of THE LANCET, who from the foundation of that periodical, notwithstanding much interested opposition, did not hesitate to expose abuses both as regards the medical staff and the management. A reference to the Editor's notice in 1824 will show that so far as reforms of various sorts were concerned, "THE LANCET had not existed in vain. He did not restrict his asseverations to literature but boldly advocated in Parliament the thorough reform of these institutions.

From the beginning of the present century and for many years afterwards the subject attracted little public attention, and produced no such lasting record as the work of M. Tenon or

¹ Therapeutische Monatshefte No 10 1892.

Pharmacology and Therapeutics.

THE TREATMENT OF ACID DYSPEPSIA

M BAUDET, in a recent communication to the Société de Thérapeutique, stated that he found this condition was frequent amongst persons with a rheumatic diathesis. He regarded the following symptoms as characteristic: Inaction of the skin and liability to cold, tendency to over secretion of hydrochloric acid and to dilatation of the stomach, tendency to fermentative changes, liability to constipation and hemorrhoids, formation and absorption of toxins, from which headaches resulted, and the formation of gas within the stomach. The condition of the skin was to be relieved by warm affusions, by friction with a horse hair glove, by exercise and warm clothing. To counteract the over secretion of hydrochloric acid he thought it advisable to employ articles of diet which are rapidly removed from the stomach (eggs, milk, vegetables) and to forbid the consumption of meat and the use of wine and alcoholic drinks, while allowing the use of non effervescent alkaline waters. The tendency to fermentative changes and the absorption of toxins were to be counteracted by internal antiseptic treatment. He considered benzonaphthol preferable to naphthol, which is too caustic, and to rasprol, which is too soluble. Salol, though good as a disinfectant, possessed an odour which many patients could not tolerate. Salicylate of bismuth was also recommended in cases where the kidneys were free from disease. Benzonaphthol in most cases should be used in doses of five grammes twice a day with the principal meals. The dose of salicylate of bismuth given in the same way is from two to three grammes. It is well to give magnesia with salicylate of bismuth to counteract the constipation from which these patients habitually suffer. The action of the intestine might also be favoured by the use of gassia.

DULCINE

Under this name a new substance has been described which, on account of its sweet taste and its complete freedom from toxic properties, appears likely to attract attention. It is obtained by means of para phenol carbamide, a compound prepared in 1883 by Berthierblau at which time the manufacture was hampered by its great cost. A new process has, however, been discovered which will in all probability reduce the price sufficiently to allow of general use.

THE IDENTITY OF CAFFEINE AND THEINE

In consequence of various statements that the physiological action of theine obtained from tea differs in certain respects from that of caffeine obtained from coffee, Mr W R Dunstan and Mr W F J Shepherd have sought for evidence of isomerism in these bases and have published their results in the *Pharmaceutical Journal*. Having extracted theine and caffeine, they found that the two substances melted at the same temperature—viz., 234.5°. From each base a crystalline auro-chloride was prepared, and these two salts melted at the same temperature—248.5°. The complete correspondence in the properties and composition of the auro-chlorides afforded satisfactory evidence of the absence of a structural difference in the bases. The mercuric chloride compounds derived from each melted at the same temperature and exactly corresponded with each other in other respects. Considering the complete identity of caffeine and theine to have been thus demonstrated, Messrs Dunstan and Shepherd think the observed differences in their physiological action must be ascribed either to impurities in the specimens used or to variations in the animals employed in the experiments. In the course of their investigations two new auro derivatives of caffeine were obtained—an aurochlor caffeine and a caffeine potassium auro chloride.

INDIAN OPIUM

At a meeting of the Pharmaceutical Conference the opinion was expressed that there was no reason why India, instead of Turkey, should not supply the whole world with medicinal opium. Native opium is medicinal purposes in India, and the receipt of a medicinal opium issued by the Medical Store Department, Bengal has enabled Dr B H Paul and distinguished member to institute comparisons with a good sample. The Patna opium in the state have been announced 32 per

cent of moisture, in the dried opium the amount of morphine was found to be 8.55 per cent. A tincture made with the dried opium according to the directions of the Pharmacopœia yielded on evaporation to dryness a residue of extract amounting to 21.3 grams per fluid ounce. The amount of morphine contained in the tincture was 2.74 grams per fluid ounce. The sample of Turkey opium in the dry state contained 10.84 per cent. of morphine. The extract yielded by the tincture amounted to 19.8 grams per fluid ounce and the amount of morphine in it was 3.4 grams per fluid ounce.

TOXIC PROPERTIES OF OXIDE OF ZINC

Oxide of zinc is so commonly employed externally that the possibility of toxic action when used internally in large doses has been generally overlooked. It has been found by MM L d Amore, C Falcone and L Marmaldi that in dogs toxic symptoms resulted from the daily administration of fifty centigrammes of oxide of zinc, death occurring within from ten to fifteen days. The symptoms noted were repeated efforts to vomit, weakness of movements, partial loss of sensation, wasting, diminution in the quantity of water, which was high coloured and contained hæmoglobin, albumen and sugar, and a partial destruction of red corpuscles. After death the tissues and organs were found to be remarkably pale, while the liver, kidneys and pancreas presented evidence of fatty degeneration.

EUCALYPTOL

Eucalyptol is a crystallised bichloride of eucalyptene which has been prepared and examined therapeutically by Dr Lafage de Neully, and which, according to an article he publishes in a recent issue of *Les Nouveaux Remèdes*, presents great advantages over all other preparations of eucalyptus having a definite composition and a uniform action and being entirely innocuous. This body occurs as white scales having a special odour, almost tasteless at first, but after being a short time in the mouth giving a slightly bitter taste. It is soluble in ether, chloroform, fatty and volatile oils and alcohol, which last, however, partially decomposes it. It is almost insoluble in glycerine and in water, alkalies decompose it. It is highly antiseptic, infinitesimal quantities being sufficient to prevent putrefaction in liquids containing organic substances, but it does not interfere with the action of ferments such as diastase, pancreatine and pepsine. Experiments on animals showed that when administered by the mouth elimination takes place by the lungs and also by the bowel and urine, but when given hypodermically elimination takes place almost exclusively by the lungs. Its physiological properties appearing to indicate that it should have a therapeutical action on respiratory, digestive and perhaps also on kidney affections, about 150 clinical observations were conducted to test its value. In phthisis it was found useful in allaying the cough and other symptoms. The alkalinity of the intestine causes eucalyptol to break up thus deodorising the canal by means of greasy aromatic products of decomposition, and several cases of severe diarrhoea have been rapidly cured by it. In typhoid fever, too, it has been given with satisfactory effects. Observations on urinary diseases have not as yet been made. Eucalyptol is best administered in powders or in capsules, from fifteen to twenty two grains may be given per diem, this quantity being divided into several doses, which are best taken during the interval between meals. Children of four or five years of age may be given six to eight grains during the twenty four hours.

PTYRINIA IN UNICELLULAR ORGANISMS

Dr Max Herz of Vienna has made some experiments showing that unicellular organisms attacked by microbes suffer from fever in exactly the same way as more complex organisms. He made his observations on yeast cells. After determining the quantity of carbonic acid developed in a certain time during ordinary fermentation produced by the cells, he tried to infect them by adding to the fermenting liquid a few cubic centimetres of a putrid liquid. Infection appeared to take place, producing an increase of carbonic acid and a rise in the temperature of the liquid. If instead of the ordinary putrid liquid, this same liquid heated and filtered, was added, the change was much less marked. It seems, therefore, that it is possible to produce by microbic infection a true fever in unicellular organisms similar to that of human beings. Dr Herz then studied antithermic action on the infected yeast of certain chemical antipyretics. He found antipyrine had

absolutely no action, but that menthol, on the contrary, even in very small doses, arrested the abnormal action of the eos. Finally, in another series of experiments made with the germs of rye Dr Herz found that the temperature of those vessels which were infected with putrid matter was higher than that of those which contained rye germinating in the ordinary way

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By F J MOUNT, LL D, M D EDIN, F R C S E. G

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The subjects of hospital reform and of Poor law reform received vigorous treatment from the pen of Thomas Wakley, the founder of THE LANCET, who from the foundation of that periodical, notwithstanding much interested opposition, did not hesitate to expose abuses both as regards the medical staff and the management. A reference to the Editor's notice in 1824 will show that, so far as reforms of various sorts were concerned, THE LANCET had not existed in vain. He did not restrict his asseverations to literature but boldly advocated in Parliament the thorough reform of these institutions.

From the beginning of the present century and for many years afterwards, the subject attracted little public attention, and produced no such lasting record as the work of M. Tenon or

the brief notes of Blizard, who was, I believe, the originator of the Samaritan fund. The report of the great Poor law Act of 1834 does not appear to have directed any special attention to sickness as a cause of destitution, or to the provision of any separate institution for the reception of sick paupers. It drew, however, a distinction between indigence and poverty, which has not, I think, been as carefully observed since as it should be. The great awakening on the question of hospitals as charitable institutions occurred after the Crimean War and was, I believe, in a great measure due to the work and example of Miss Nightingale, to whom will always belong the transcendent merit of having taken a leading part in the introduction of some of the greatest, most enduring, and most valuable improvements in our hospital system. The discussion of the many aspects of the question has since been constant in our medical journals, in the proceedings of the Social Science Association and other kindred associations, as well as in special conferences of men thoroughly conversant with the subject, all of which failed to move the Government of the country to take any action in the matter until very recently. The persevering and ultimately successful and admirable procedure of the Charity Organisation Society deserves to be recorded most prominently. The action of the medical department of the Privy Council, prior to its absorption in the Local Government Board and the provision by the latter body of some of the best hospitals we have, are also very important incidents in the recent history of the question. In France, about the same time, when a third rebuilding of the *Hôtel Dieu* became necessary, the subject was again carefully investigated. To notice a title of the records of permanent interest accumulated in France and England at the time referred to would be impracticable, but in both countries exceptionally important results of the active labours of the period exist which deserve special mention. The first I will refer to is Husson's great "*Étude sur les Hôpitaux*," a magnificent contribution in every sense, which included, very much in the form adopted by M. Tenon, all particulars relating to the construction, arrangements, hygiene and professional works of hospitals in general, and of the proposed leading hospital of Paris in particular. It was published in 1862, was well illustrated and embodied the experience of its author when he was administrative head of the *Assistance Publique* in Paris. His department had previously sent a deputation of its chief medical and engineering inspectors to England to study our plans and procedure—Messieurs Blondin and Ser—who, after a minute and careful investigation, embodied the results in a special report which was also published *in extenso*. Between the French works and English reports are to be found all the particulars of two entirely different methods of dealing with the question, one altogether by State management and control, the other—our own—known as the voluntary system, which is chiefly under irresponsible private bodies, except in our Poor law hospitals and infirmaries which are under local public management, supervised by a special board of control, the Local Government Board, and thus become State institutions, so that we have both systems in our own hands, as guides in dealing with the question. A careful study of them, both by personal visitation and published records, has satisfied me that there are points of excellence in either which might be useful to the other, but that neither system in its entirety would be suitable for both for the reasons mentioned by M. Tenon and quoted above. To attempt to analyse the works referred to in detail would occupy more time than I can give to it, and more space than could be afforded me in the columns of *THE LANCET*.

Moreover, it is not necessary, until an analysis of the evidence produced before the House of Lords Committee and their report upon it have been scrutinised, to ascertain the remedial measures suggested to remove existing defects, regarding which so much diversity of opinion at present exists. The most scientific, reliable and important contribution to the question of the management of the civil hospitals of Great Britain is the report of Messrs. Bristow and Holmes on the inquiry conducted by them under the direction of Sir John Simon, whose attention was attracted to the subject by the absence of all trustworthy information regarding the sanitary circumstances of and medical and surgical work done in our hospitals. This invaluable record is contained in the sixth volume of the Transactions of the medical department of the Privy Council. It is divided into two parts. One part is devoted to the regulations of hospitals regarding the admission of patients, the kinds of diseases admitted or excluded, the separation or admixture of different classes of disease, to

the classes of patients admitted and to other minor particulars. The other division of the work is devoted to the construction of hospitals and both were reviewed by the head of the department, in a section of his introductory examination under the title of the "*Statistics and Hygiene of Hospitals*." The reporters visited Paris with a view to compare the French and English systems, as had been done in France, for our plans and procedure. The French hospitals were and are all Government institutions, although some of them were possessed of endowments insufficient for their maintenance, which were safeguarded by the State, but no private rights or interests in them were allowed, nor were they given any share in the management of the institutions to which they belonged. The State demanded that the hospitals should secure aid to all the sick poor of their respective departments, who would otherwise become a charge upon the public or be left to perish. A bed had to be found for every person poor enough and sick enough to require to be treated in a public institution. Their sick poor are thus more thoroughly succoured than are ours, without any intervention of a poor law. They regard some portions of our voluntary system of relief of the sickness of the poor as inhuman and unfit for introduction in France, where sickness and poverty alone are passports of admission.

The English report is very valuable on another ground, as showing in an exact manner the actual state of each of the many institutions visited and examined at that time. It may be useful to compare them with the evidence on the same points contained in the statements submitted to the House of Lords' Committee.

In 1881 I wrote a series of papers on the construction and management of hospitals, which were published in *THE LANCET* of that year. They attracted considerable attention at the time, and were in consequence in 1883 extended and embodied in a joint work by Mr. Saxon Snell and myself on the subject, all matters concerning construction by the former, the medical and charitable relations by myself. A second edition was called for and published in 1889. Both are now out of print. In the work referred to most of the matters which it was deemed desirable to refer to a Royal Commission are treated at some length, and in my inaugural address to the Royal Statistical Society, of which I was the President in 1890, a reference was made to the hospital question which I venture to reproduce now, as embodying a brief *résumé* of my views on the question.

"A Hospital Board for London."

"With the exception of the Poor law institutions, the hospitals of London are under no other control or supervision than those of their own establishments and supporters. They represent an order of things which in every other class of public institutions of like character has passed away. As a body or even individually they render no connected account of their proceedings in finance, medical statistics and similar matters of general and scientific interest, to enable the public or the profession to form a correct estimate of the worth of their work. All medical establishments of the character of hospitals are public institutions and essentially charities in their chief aim and purpose—the treatment of the sick poor—and should not be subordinated to any other use. From their very nature they need the most careful regulation and to be dealt with as all other charities are. No one has ever questioned the value of the work performed within the walls of those of established character. They are in this respect monuments of science, skill and philanthropy of the purest and most elevated type. But the isolated and independent action of the different institutions robs them of much of their usefulness and tends to impair the higher ends expected from them. We live in a time when combined action and organisation are the watchwords of the age and it is no reproach to the older institutions that in this respect they are not altogether in harmony with them. Their removal from strict public scrutiny is, in my belief, one of the reasons of the withholding of the pecuniary support which they formerly received, added to the phenomenal growth of the population of London which has outstripped the ordinary means of dealing with such difficulties. The remedy for the present evils, so forcibly represented in the memorandum of the Charity Organisation Society, will, I think, be found in the creation of a central board of supervision in which all the interests concerned should be fairly represented which should for the present, leave untouched the

usual procedure of all authorities connected with existing institutions, should have power of control and supervision similar to those now possessed and exercised by such a body as the Metropolitan Asylums Board, and armed with authority to call for detailed returns upon a uniform plan of finance and statistics, with a view to their digest and publication annually in such manner as may be deemed most useful. To enable such a body to be created so as to exercise effective control over the hospitals of the metropolis hospital London should, I think, be divided into five sections corresponding to the five registration districts, of which the population, as ascertained in 1881, is noted below:—

Districts.	Area in acres.	Population in 1881.	Number of persons per acre.	Number of hospitals in each district.	Number of hospitals to the square mile.	Number of beds.	Ratio of beds to the population—1 to
West District	10,820	699,023	64	5	17	4,497	149
North "	13,468	815,947	67	23	14	4,889	211
Central "	2,121	582,528	132	17	5.2	1,979	1.2
East "	5,510	692,732	126	15	17	5,717	121
South "	40,885	1,235,927	29	23	0.3	7,515	168
Total	73,804	3,916,430	51	111	0.9	24,097	159

The central board should contain representatives from all the great hospitals of the five districts should be distinctly elective in character, should consist of the lay and medical elements in equal proportions, and should comprise a sufficient number of members to admit of the formation of an executive committee for each district. It should perform in addition such of the functions of the Bureau d'Assistance Publique in Paris as can fairly be engrafted upon our manner of managing matters with no further assistance from the State than the bestowal of legislative sanction to so much of the plan as requires Parliamentary authority. To attempt in an opening address to work out this or any other scheme that may be suggested for so exceptional a city as London, is manifestly impossible, I must therefore content myself with its mere mention. In any case it will need much prolonged and careful inquiry to determine what ought ultimately to be done, and what is immediately practicable. Having referred to the Metropolitan Asylums Board as an institution of similar character I deem it right to bring to your notice its manner of performance of a most important part of its work—that which has immediate relation to the functions of this Society—the collection of statistics to illustrate the nature and results of its labours. The special duties of this board are to superintend the fever hospitals and pauper lunatic asylums of the metropolis, in the interests of public health and the prevention of the extension of infectious diseases. To this have been added the regulation of the ambulance system and the management of a trainship. The effective control of the spread of infectious fevers is a far more difficult task than the management of ordinary diseases and accidents inasmuch as the one only affects the individual, while the other, if unchecked, may become disastrous to whole communities. [The excellent manner in which its duties have been performed may be gathered from its published reports—models of their kind, such as no others of our public institutions afford.] If equally skilled care and attention are bestowed in the more extended control of the hospital system of London by a properly organised and authoritative central board the various faults found with the existing uncontrolled system can be dealt with in the only manner likely to be attended with success. The absence of a proper system of independent inspection and audit, the irregularities of the out-patients' departments, the regulation of the relations of the schools to the hospitals, the discipline, duty and training of nurses, the suppression of all useless or mischievous special hospitals and the prevention of the creation of others of similar character, the adoption, audit and publication of a uniform system of accounts, a scientific but simple collection and annual publication of the medical statistics of all hospitals on a uniform plan, the extension of institutions for the reception of convalescents and the various side issues which are constantly arising are all many-sided questions which require patient investigation by a skilled agency armed with authority to deal with them decisively before any change is attempted. All this is a question of time, for the radical

reform of old institutions to be permanent as well as to find acceptance, must be of slow growth. Structures, which from time to time need removal or renewal, should be built up again as much as possible on pre-existing foundations."

I have purposely restricted my remarks to matters which have come under the purview of the Lords' Committee, and I have not yet attempted the elaboration of a complete scheme of arrangements for London which will, if possible, bring public and private charity into harmony so far as can be accomplished without detriment to either. When the detailed statistics of the recent census of London as a whole are published I hope to be able to see my way to making the

attempt, but I regard the provision of a central board, if properly organised, to be the keystone of the arch, if armed with the requisite authority to accomplish the difficult task which will be assigned to it. Thus much of any plan of reform need not be delayed by any other consideration, and, it is hoped, may lead in the near future to the creation of a special public health department, under a responsible Cabinet Minister.

CHOLERA.

CURRENT NOTES, COMMENTS AND CRITICISM.

THE late recrudescence of the epidemic at Hambourg in the shape of a sharp outbreak disturbed the confidence of the officials and people of Germany and called attention to the fact that the danger is by no means past. The cholera record for Hambourg for Dec. 23rd showed seven fresh cases, one of which terminated fatally—four occurred in the city and three in the suburbs, that for the 30th included six deaths, one of which was in the shipping quarter and there were two fresh cases of suspected cholera. At the same date five deaths were reported in Altona and two in Wandsbeck, besides one case of suspected cholera. On the last day of the year there was one case notified at Hambourg and one on the first day of the present year and three cholera deaths were reported at Altona on the first-named date. As regards France, the bulletin from Paris for the week ending Dec. 29th showed two deaths as having occurred during the previous week. At Dunkirk three deaths occurred during the last week of 1892. The disease was also said to be spreading at that time at Grand Fort Philippe, near Gravelines, where sixteen deaths were reported on Dec. 25th and 29th. Several cases of "cholerae" were also reported in the neighbourhood of Brest and some suspicious deaths were said to have occurred among the navvies employed in the construction of a railway.

According to the latest reports from Warsaw cholera was prevalent in the government's of Radom, Lublin and Plock and huts had been erected on the Prussian frontier for the detention of travellers.

The weather on the continent of Europe appears to be very severe at the present time as it is in this country, and although the persistence of cholera in cold weather in districts and places where it has been previously prevalent is not by any means unknown, still it is extremely rare for the disease to extend itself or prevail with an epidemic force during the winter season. It is curious how the results of experience in France are corroborative of those of our own in 1865 and 1866, when cholera never attained any wide spread in the well-sewered towns of England and of that in Munich in 1873, when the properly sewered part of the town had only

half the mortality and sickness of those portions that were badly or not at all drained. What is wanted at the present time is a thoroughly exhaustive inquiry into the local spread of cholera, in places where all the circumstances are known and the various factors can be ascertained and determined.

CHOLERA IN FRANCE

(FROM OUR SPECIAL CORRESPONDENT)

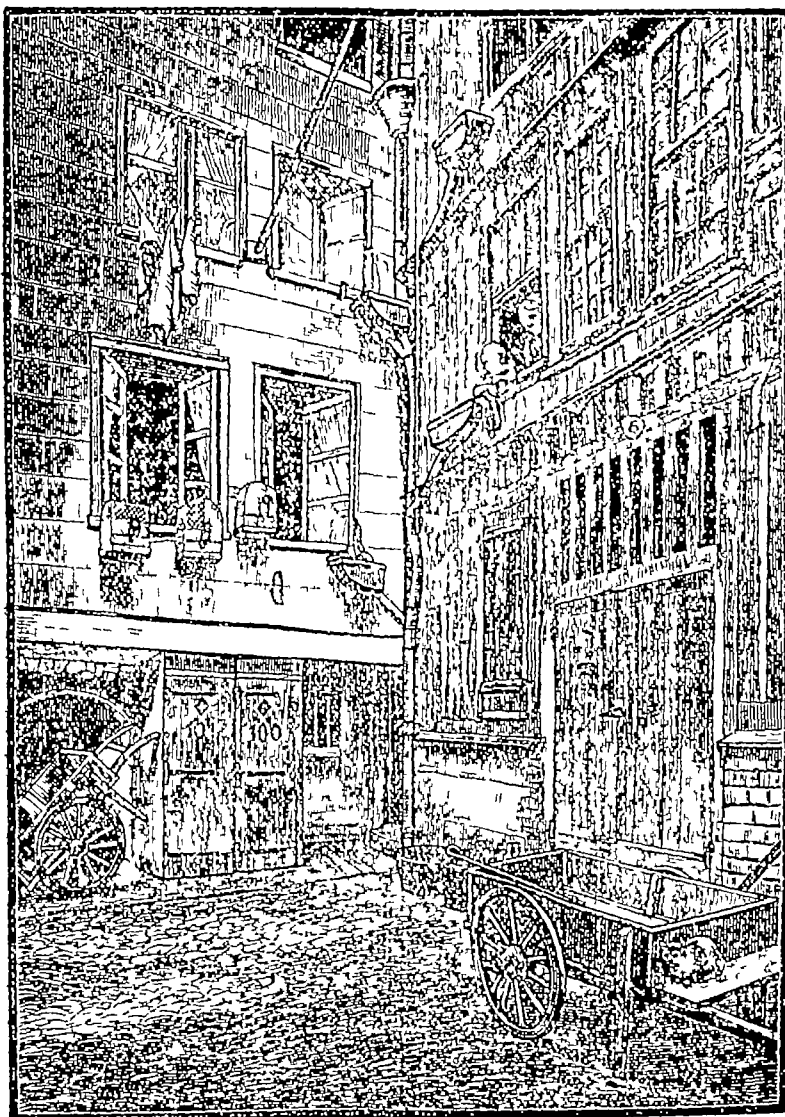
DOMESTIC DRAINAGE

Necessary Measures and Measures immediately Applicable — The Pavé System at Harre — The Window Sinks and Slop Water Contamination. — Cholera Dens at Harre, Honfleur and Rouen — Befouling the Subsoil of Dwellings

It is universally acknowledged that "good sanitation" is the best protection against cholera, but it is important to add that in the term "good sanitation" must be comprised the condition of the subsoil as well as that of the houses standing on the soil.

The probable explanation of such difference will be attributable to the condition of the subsoil. But, it may be urged, how can the condition of the subsoil be altered? Above all, can this possibly be done before next spring, when cholera may return with increased virulence? Certainly want of time, but above all want of money, will render it impossible to carry out extensive works of sanitation between this and next spring. Nevertheless a great deal could be done. An entire system of sewers cannot be extemporised in a few months, nor can water be brought to a town in a similar period, but, if the streets must remain in an unsatisfactory state, there is no reason why the condition of each individual house should not be vastly improved. This may not altogether suffice to ward off the danger, but it will lessen the damage likely to ensue. In Normandy especially there are one or two measures which obviously should at once be applied. This is a matter which interests not only the inhabitants of Normandy, but also the British public. It must be borne in mind that a very large proportion of the fruit, the poultry, the butter and the eggs consumed in England comes from Normandy. That these provisions should reach us from a cholera stricken country is

FIG 1



No 17, Rue des Gallons at Harre The back yard.

If we only judge by what appears on the surface we shall often be surprised to find that quarters which seem most unwholesome are exempt, and other districts, less crowded, less dirty and poor, contribute the larger number of victims to the epidemic.

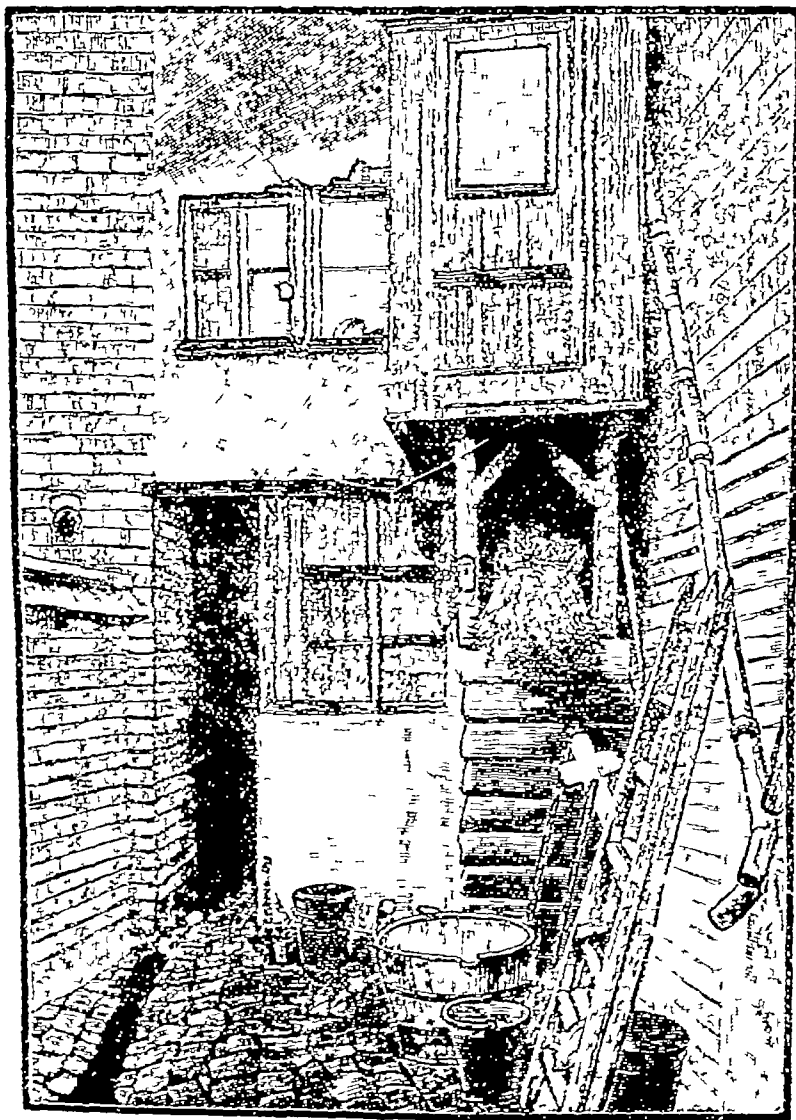
a matter which cannot be contemplated otherwise than with concern. Fruit and other provisions coming from Hamburg last summer were stopped in some of our Northern ports and sent back to Germany, if the much larger supplies shipped

to England from the ports of Normandy—Honfleur, Havre, Dieppe—were treated in a similar manner, the consequences both in England and France would be most disastrous.

Though it is not possible to build before next spring sewers and aqueducts enough to give a proper water supply and to efficiently drain all the towns that are menaced by the cholera epidemic, there is no reason why great improvements should not be effected in the domestic drainage of the towns in question. Throughout Normandy the subsoil of inhabited houses is saturated with slop water. The accompanying illustrations show how this occurs. For instance, No 17 Rue des Galons is one of the cholera stricken houses of Havre. This and the other houses at Havre were photographed by M. L. David, architect of the town. With him I visited the houses in question. The Mayor of Havre, acceding to my request that they should be photographed, was good enough to present me with copies, and the accompanying sketches are faithful reproductions of these photographs. The Rue des

the street door open this shut off the corner and ensured a certain privacy. When the street door was shut there was nothing to check the smells from the tub ascending into the building. In the wall near the tub a little hole had been made so that any liquid filth on the floor might flow out into the passage leading from the back of the premises to the street. Immediately opposite, on the other side of the passage, two more tubs were placed facing each other, under a staircase. There was not room to stand up under the steps and the corner was absolutely dark. A rough wooden seat was fitted over the tubs, but they were not closed, and gave forth horrible odours, which passed up into the house through the chinks in the stairs that covered them. The passage in which these pail closets were situated led from the street to an inner yard surrounded by dwellings four storeys high. In this roughly paved yard there were several costermongers' carts, and two more pail closets, standing side by side, near the entrance to the houses at the back of the yard and just

FIG 2.



No 21, Quai Colbert at Havre. The back yard.

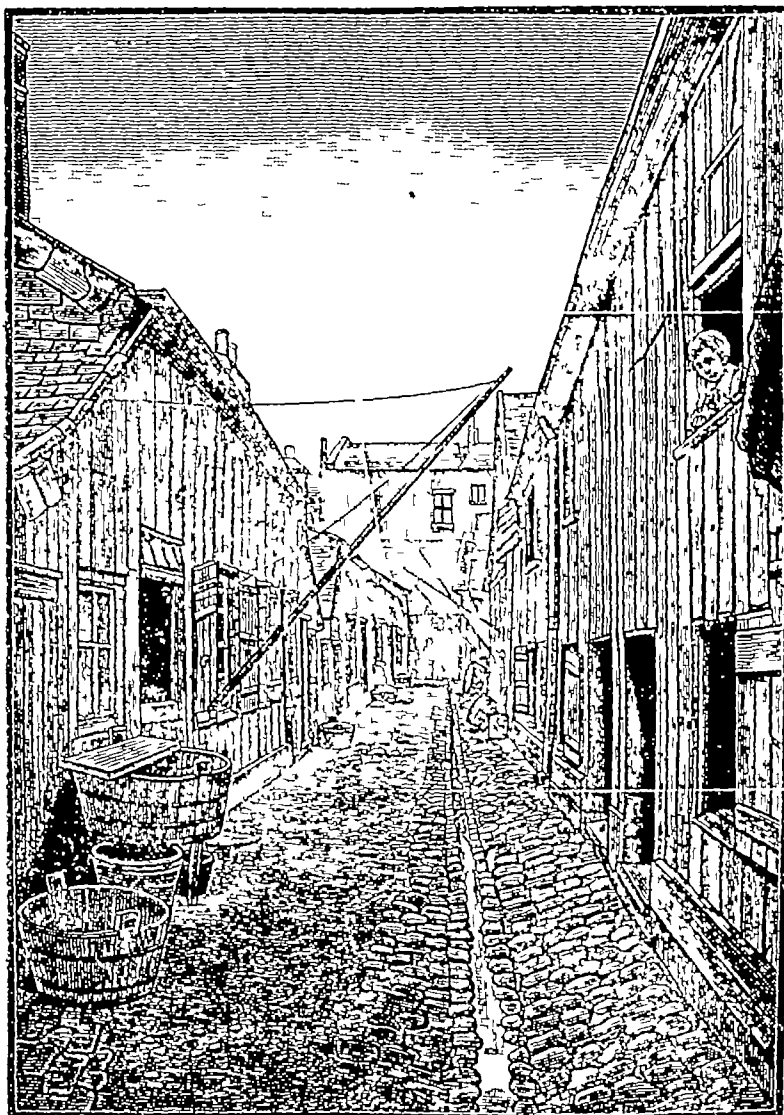
Galons is one of the narrow streets in the Quartier Notre Dame, running down to the Grand Quai of the Avant Port, or tidal basin. (See map in THE LANCET of Nov 12th, 1892.) Entering a pail closet I found a badly kept ungal. A door on the opposite side served a double purpose. It was at once a closet door and a window. The closet consisted of a large tub placed in a corner. In the corner, there was no seat. By pulling

under a bedroom window. This will be noted in the accompanying sketch, and it will also be observed that the inhabitants of the room in question, not content with the effluvia from these pail closets keep a stock of parrots and other animals. The staircase being in the corner of the yard serves for the buildings on both sides of the angle. In this corner there is, on each floor, a large inner room, and on

the first floor this inner room, being surrounded by other houses, has no window, no light whatever. Yet this room, into which daylight has never penetrated, has been selected to serve as a common lodging house dormitory. There are seven beds in the room, let out at the very high charge of fifty centimes per night to promiscuous lodgers. On the second floor the corresponding room, in consequence of irregularity in the shape of the surrounding buildings, has a window, but it measures only one foot square. On the third floor the room has several small windows. Surely it would be possible to prevent persons sleeping in rooms that have no windows and where daylight can never enter. It will be seen also that there is room to construct more closets in the yard, so that the

happens that human dejecta are emptied into the sinks. The sink and the pipe beyond are greasy, filth adheres to the sides, and they give forth unceasingly the worst odours. Yet these foul smelling mouths are just at the windows of dwelling rooms, when the window is opened the inhabitants breathe air tainted by these sinks. Then the pipes and the sinks corrode, get out of shape, leak and render the walls damp and foul. But this is not the worst feature of the case. The slop water on reaching the bottom of the pipe does not go to a drain and to a sewer, it splashes into the yard, it slowly gravitates along a little gutter till it reaches the street gutter and thence goes to the nearest sewer. The process is well

FIG 3



The Impasse des Corderies in the Perrey District of Havre.

abominations under the stairs in the passage from the yard to the street might be abolished, but, apart from the abomination of these badly placed and badly kept pail closets, the disposal of slop water constitutes an organic defect which exists throughout Normandy, and this is well shown by the photograph. A receptacle called a *plomb* will be noted by the side of several windows, it is a sort of sink. Into this are thrown all the slops, here are cleansed the chamber utensils, and here are often left the dirty brushes and cloths &c used for such purposes. There is no flush or method of cleaning these sinks, and needless to say that, as the closets below are some distance away and are extremely filthy, it often

illustrated in the sketch of the house, No 21, Quai Colbert. In this case the engraving, which is from a photograph taken in the back yard, represents the back of the house that gives on to the street. The passage going under and through the house to the street is here seen, as are the slops from the dwelling within the yard flowing towards the street, but it will be noted that some stones and rubbish have fallen into the little gutter. This will check the flow of the slops and make them spread over the entire surface of the passage. The gutter itself is only a row of bricks laid flat against another row of bricks standing vertically so as to form a ledge. There is no cement used, between each brick the water can easily

pass into the soil below, while the surrounding pavement is so loose that the stones move under the weight of the foot and often splash up from underneath black, fetid mud. At the back of this narrow little court there is a small house, in the front of which there is a sort of wooden shanty. Its floor is 40 centimetres below the level of the yard and the place measures 2.37 by 2 metres. In this place a man, a woman and five children lived for a whole year. They were miserably poor people and their domicile was so utterly unfit for human habitation that no one had the audacity to levy any rent for such premises. These people were discovered by the police when the latter came to remove a cholera patient from the house. They had remained there rent free for a whole year, but the authorities took them all off to the sanatorium. These people, who were living in the confined space of about 60 cubic feet per person, threw all their slops out on to the yard of No 21, Quai Colbert. Even the tenant of the house in front found the space so confined that he built himself a sort of closet made of old planks, which is seen near the small first-floor window. Here was placed a wooden tub which served as a closet and which was emptied "when full"—that is, at no regular times. There is no water on these premises and of course no drainage beyond the surface drainage shown in the picture. The pipe down the wall fills buckets with rain water from the roof when it rains, and if other water is wanted the inhabitants must go down the street and get it at the public fountain. Rents for single rooms in such houses vary from 7s to 12s per month.

Even smaller are the houses in the Impasse des Corderies, where some of the rare cases of cholera which occurred in the Perrey district of Havre took place. This is a small street through which there is no thoroughfare and which consists almost exclusively of wooden huts. Some of these huts have but one room and one floor, the ground floor, and several are inhabited by washerwomen. This accounts for the number of large tubs outside the huts. The rooms are very low and the door in some cases only four to five feet high, so that it is necessary to stoop to enter. In one of these little wooden houses I found an old woman busily engaged in washing, not her own linen, but that of other persons. Across the dark, low room linen was hung up to dry. The wooden walls were black with cakes of greasy, adhesive dirt. In a sort of closet cupboard, partitioned off from the room by badly fitting planks, were lumber, coal, rags &c. and a wooden tub. This tub served as the closet of the house and its faecal contents spread foul odours throughout the hut. There were slops on all sides—on the black, dirty floor of the dwelling stagnating on the bare earth outside the door, or slowly travelling along the central gutter of the alley which constitutes the main and only drain of the place. On the opposite side the *tinettes* or pails were placed under the staircases leading to the little upper rooms in the roofs. Most of the inhabitants of this wretched quarter were dressed in mere rags. There were a great many poles to hang up linen or fishing nets to dry, and yet there is no provision made to drain away the dirty water from the washing tubs and the domestic slop-pails.

This custom of draining into the gutter cannot be abolished in a day. People must drain somewhere, and if there are no sewers and no cesspools, then the slop water must go to the street gutter. But the extraordinary feature of the case is that there seems to be no power of enforcing the construction of a proper drain between each house and the gutter. The municipal authorities may wash the street gutters, may render them water tight with cement &c., but they cannot call upon the householders to build drains so that the water going to the gutter shall not sink into the subsoil of the house. For instance, I went with the town architect, M. David, to No 28 Rue des Galions. There had been five cases of cholera in this one house. The police had gone there over and over again to clean the place out. Even the fire brigade had been brought on to the premises and they had so well washed out the stairs with the hose that a part of the rotting old structure had given way. A portion of the stairs had fallen in and the top floor could no longer be reached. Nevertheless, in spite of all this cleaning, we found the gutter that went through the passage from the back yard to the street blocked up and the slops instead of flowing to the street were stagnant under the house. In the Rue d'Albanie, which is but the continuation of the Rue des Galions, at No 66, we visited the inner yard. It is half roofed over and measures only six feet by four feet, and in this confined space there were ten gaping sinks outside the windows. From one of the pipes of these sinks we saw faecal matter oozing out. The house

was six storeys high and the pail closet was at the very top of the stairs. The pail stood on loose-fitting planks, urine and other filth dripping through the chinks on to the stairs underneath. Next door, at No 68, where there had been two cases of cholera, the pail closet was in the middle of the stairs and caused such foul odours that the tenants complained they could not keep either milk or soup, as it so soon turned sour. I was not surprised to hear at the Bureau d'Hygiène that the death rate in this street (Rue d'Albanie) calculated on the average of the last ten years, amounts to 41.1 per 1000, but in the Rue du Petit Croissant the death rate is 44.9 per 1000, and, as I have

FIG 4



The Rue des Rosiers at Rouen.

already stated on a previous occasion, it reaches the enormous proportion of 57.2 per 1000 in the Rue Marbonne, while in the broad, prosperous Rue François Premier it is only 12.03 per 1000.

At Rouen, Honfleur and most of the towns which I visited similar inequalities will be found. What, for instance, can be more abominable, but it must be confessed more picturesque, than the mediaeval Rue des Rosiers at Rouen? Here the houses are several hundred years old and built in a great measure of wood and stand on redeemed marsh land. The street is very narrow, the houses very high and a central gutter constitutes the main drainage

system At the top of each house, right up in the gable, is a pail. What is not put in this pail—and the pail is not often emptied—goes to the gutter in the centre of the street or sinks into the earth before reaching the gutter. Here and in the Rue du Mouton, which is a continuation of the same street, there have been, in proportion, the greatest number of cases of cholera. The pavement is rough, is saturated with filth, the houses are inhabited by very poor people and over-crowded. The same sort of description would apply to the slums of Honfleur. The very poor court, appropriately named l'Allée des Soupires consists of houses where rooms are hired for 7s and 8s a month where there is no drainage, but stones with dirty water between. The rooms are devoid of proper light and overcrowded. In one dark room I found five persons living together, one being an old invalid woman who had not left her bed for twenty two years. The Pépinière Court at Honfleur consists of old mediæval houses with upper storeys that nearly touch each other across the narrow street. The doors hardly five feet high, are very small, the windows are small, the walls out of line, some bulging forwards as if the houses were about to fall. The earth is black mud oozing out between loose stones, it is all very picturesque, very dirty, very unwholesome, and constitutes a suitable home for cholera.

Speaking to the various authorities, they all maintained that they had no powers to make the owners or occupiers of the houses construct drains. If street gutters were cemented so that the water in them could not sink into the subsoil, and if the subsoil of the houses was protected by laying water tight drains in the houses to carry the slops to the street gutter, there would thus be cheaply established an open air system of drainage which, whatever might be its inconveniences, would in any case protect the subsoil from contamination. This much at least could be very rapidly accomplished. It could be done in time for next spring, and by thus protecting the soil under the houses it is probable that a very important step would have been taken towards protecting the lives of the people living within the houses. If the local authorities really have not the power to act in this sense, the Government should immediately contrive to give the municipalities the means of removing such palpably insanitary conditions.

THE CONFERENCE ON CHOLERA IN ST PETERSBURG

(FROM OUR SPECIAL CORRESPONDENT)

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kindly furnished me with copies of some of the more important communications, a brief summary of which may be of interest.

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(To be continued)

THE DRAINAGE OF MIDDLE-CLASS DWELLINGS

It is only too probable that cholera may be brought over to England next spring. Will it take root in this country? Now is the time when everybody should put his house in order, it will be too late when once the epidemic is upon us. A great deal has been done with regard to the homes of the poor. These may be dirty and overcrowded, but there are not those vices of construction which still prevail—and this to an alarming extent—in middle-class dwellings. What with official and amateur sanitary inspection, the habitations of the poor are technically speaking often in a much better sanitary condition than those of the middle classes. For instance, a great portion of the working and poorer classes live in small cottages, with open space back and front, and with no closets or dustbins indoors. Even the scullery and the sink are in an outhouse. In fact, in many instances there is no drainage whatsoever within the dwelling portion of the cottage. The middle class houses have, on the contrary, their closets, their sinks, their bath pipes &c., indoors, and all these are sources of danger if they are not perfect in structure and ventilation. No philanthropists visit these middle-class dwellings to see if they are in a good condition, the sanitary inspector only comes if called or if there be an outbreak of infectious disease. Perhaps it may be said that the inhabitants are well enough educated and sufficiently intelligent to look after their own sanitation. Such unfortunately is not always the case, and where there is a disposition to set matters right there are often financial and other reasons which prevent the realisation of these good intentions.

Undoubtedly great care has been bestowed on the drainage

¹ Vide THE LANCET Dec. 10th 1892.

² A considerable number of fifth year students were sent from St. Petersburg and from the University of Kharkof to the infected districts more particularly to the country of the Don Cossacks and to the Caucasus.

of the more modern middle class dwellings. After all it does not cost more to drain well than to drain badly, but the details of good domestic drainage were not known to the generality of builders some twenty or thirty years ago. Consequently it is very probable that more than half the middle class houses of London have defective drainage. Let us take houses with rents varying from about £30 to £100 a year. On entering the hall the staircase generally rises straight up in front. Passing by the parlour, we probably find a closet under the stairs. This closet very often has no ventilation. It has an opaque glass door and receives a little light from the window in the passage. If the wall of the closet is not against the wall of the next house, then, perhaps, one single brick has been removed and this small hole is called ventilation. In this latter case there is no reason why the hole should not be enlarged and converted into a window of at least eighteen inches square. But in the frequent instances where the wall cannot be pierced the closet must be removed and placed in front of the side window which as a rule faces the closet door. This may darken the passage, but that is preferable to ventilating the closet into the passage and the house. The closet on the first floor is likely to be better situated and to have a window, but the basement closet is often as badly placed as that under the stairs on the parlour floor. Then, when we proceed to examine the closets, it will be found that the old fashioned D trap and pan container are still largely in use. Though in every text book on sanitation this form of closet is unanimously condemned it is nevertheless still employed throughout the country. Then, again, these closets which can never be clean and never free from unpleasant odour, are supplied with water direct from the cistern. They have no water-waste preventers, but are connected directly with the cistern from which the drinking water is derived. Often these cisterns are so placed that they cannot be easily reached and are consequently but rarely cleaned. Finally, there are the drain pipes, which especially in jerry built houses are laid down so carelessly that they leak at the joints.

Undoubtedly, in view of the probable cholera epidemic, every drain pipe in England should be tested at once. There are contrivances that can be thrown down and will promptly disclose the existence of a leakage, or else anyone can get some oil of peppermint and, mixing it in a bucketful of warm water throw it into the highest closet. Where sewer gas escapes through the drains there the odour of pepper mint will also be detected. If this experiment were made in every home we fear that an appalling number of houses would be found to have leaking drains.

There is much evidence to show that the condition of the subsoil has great influence in determining the spread of cholera epidemics. Apparently if the subsoil is contaminated by a numerous population living on a spot inefficiently drained, there is a greater local susceptibility to cholera. What, then, will be the condition of dwellers in houses where

the subsoil has for years been contaminated by the leakage from badly laid drain pipes? To cite but one out of many illustrations of this danger, M. Guérard, civil engineer, in his report on the great cholera epidemic of Marseilles in 1884, describes how in the poorest dirtiest quarters of the town there were some streets almost entirely exempt from cholera. These streets only differed from the neighbouring streets inasmuch as they had sewers, consequently the slops and dirty water from the houses flowed rapidly away instead of sinking into the subsoil. But in England the slop and dirty water from the houses, instead of going at once to the sewer too often in part escapes through leaking drain pipes into the subsoil immediately under the houses. In such cases it is not only necessary to dig up and relay faulty drain pipes, but the surrounding soil, which will be found in a filthy condition, must also be carried away and clean gravel put in its stead.

The urgency of immediately taking all these measures cannot be denied, and yet there are many practical difficulties to be overcome. Many occupants of middle-class houses dare not in any way vex their landlords. Many pay their rents irregularly, others could not afford to remove, and for many personal and financial reasons would be very reluctant to cause their landlords any inconvenience. The landlords themselves are often in anything but an enviable position. They have invested their money in houses, imagined these houses to be in a good condition and have rented them on certain terms. Now they may be called upon to spend £50 or £100 to redrain these houses. This may equal the loss of a year's rental or income. Of course every effort will be made to avoid such a sacrifice. Thus, what with tenants who do not like to trouble their landlords, and landlords who, as investors and speculators in house property, are sailing rather near the wind and therefore cannot afford to undertake large, unforeseen and expensive sanitary improvements, the causes of unsalubrity described above are likely to remain unaltered. No general improvement will be effected unless sanitary authorities intervene. Here and there a liberal landlord or an enlightened tenant, possessing special knowledge of these questions and fully impressed as to their importance, may bring about the necessary alteration during the course of this winter. In the great majority of cases nothing will be done unless pressure is brought to bear by outside and disinterested persons. The best thing would be for each local authority to at once undertake a house-to-house visitation and do their utmost to compel those responsible in each case to relay the drains where leakage is detected, to provide inlet and outlet ventilation for the drains, to remove all D traps and pan containers to place the cisterns where they can be easily inspected and cleaned and to provide each closet with a separate water waste preventer flushing cistern. If this were done, and done at once, we might view with but little anxiety the recrudescence of cholera next spring.

THE LANCET RELIEF FUND

FOURTH ANNUAL REPORT OF THE ALMONERS

THE LANCET Relief Fund, which has for its Almoners the President of the Royal College of Physicians (Sir ANDREW CLARK, Bart., FRS) the President of the Royal College of Surgeons (Mr THOMAS BRYANT) the President of the General Medical Council (Sir RICHARD QUAIN, Bart., FRS), Mr THOMAS WAKLEY, FRCS, and Mr THOMAS WAKLEY, jun. LRCP Lond., with Sir HENRY PITMAN, MD Camb, FRCP, as Honorary Auditor, came into operation on the 1st of February, 1889.

In presenting the fourth annual report, the Almoners think it well again to direct attention to the objects for which the Fund was established.

For the sustentation of the Fund the sum of at least £300 will be provided every January by the Proprietors of THE LANCET, and administered free of cost for the purpose of affording immediate pecuniary assistance to registrable medical practitioners, or to the widows or orphans of members of the profession in cases of distress and emergency by the grant of money by way of loans free of interest or gifts as the circumstances of the various cases may require.

When the Fund was inaugurated considerable misapprehension existed as to the precise objects for which it had

been established, and as a result the majority of the earlier applications being cases of *chronic* distress, and not coming therefore, under the designation of *emergency*, could not be entertained. Attention was called to this fact in THE LANCET of Feb 16th, 1889 in the following words—

'We are requested by the Almoners to state that, from the character of a number of the applications received both personally and by letter for relief, it is evident that in many cases the object for which this Fund has been established is not quite clearly understood, and if relief had been afforded in the cases of those who suffer from chronic distress the Fund would have been completely exhausted within the first few days of its existence. They would therefore be greatly obliged if those readers of THE LANCET who may be asked to endorse applications would carefully peruse the Application Form and explain the precise object of the Fund to those applicants whose cases do not seem to come within the scope of the purpose for which the Fund has been established, which is to afford prompt aid to registrable medical practitioners, or to the widows or orphans of members of the profession who in consequence of the supervention of some unexpected exigency which is not likely to recur, have pressing need of immediate and temporary pecuniary relief,' and who, it

system At the top of each house, right up in the gable, is a pail. What is not put in this pail—and the pail is not often emptied—goes to the gutter in the centre of the street or sinks into the earth before reaching the gutter. Here and in the Rue du Mouton, which is a continuation of the same street, there have been, in proportion, the greatest number of cases of cholera. The pavement is rough, is saturated with filth, the houses are inhabited by very poor people and over-crowded. The same sort of description would apply to the slums of Honfleur. The very poor court, appropriately named 'Allée des Soupires' consists of houses where rooms are hired for 7s. and 8s. a month where there is no drainage, but stones with dirty water between. The rooms are devoid of proper light and overcrowded. In one dark room I found five persons living together, one being an old invalid woman who had not left her bed for twenty two years. The Pôpinère Court at Honfleur consists of old mediæval houses with upper storeys that nearly touch each other across the narrow street. The doors, hardly five feet high are very small, the windows are small, the walls out of line, some bulging forwards as if the houses were about to fall. The earth is black mud oozing out between loose stones, it is all very picturesque, very dirty, very unwholesome, and constitutes a suitable home for cholera.

Speaking to the various authorities, they all maintained that they had no powers to make the owners or occupiers of the houses construct drains. If street gutters were cemented so that the water in them could not sink into the subsoil, and if the subsoil of the houses was protected by laying water tight drains in the houses to carry the slops to the street gutter, there would thus be cheaply established an open air system of drainage which, whatever might be its inconveniences, would in any case protect the subsoil from contamination. This much at least could be very rapidly accomplished. It could be done in time for next spring, and by thus protecting the soil under the houses it is probable that a very important step would have been taken towards protecting the lives of the people living within the houses. If the local authorities really have not the power to act in this sense, the Government should immediately contrive to give the municipalities the means of removing such palpably insanitary conditions.

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FORRES LEANCHOIL HOSPITAL

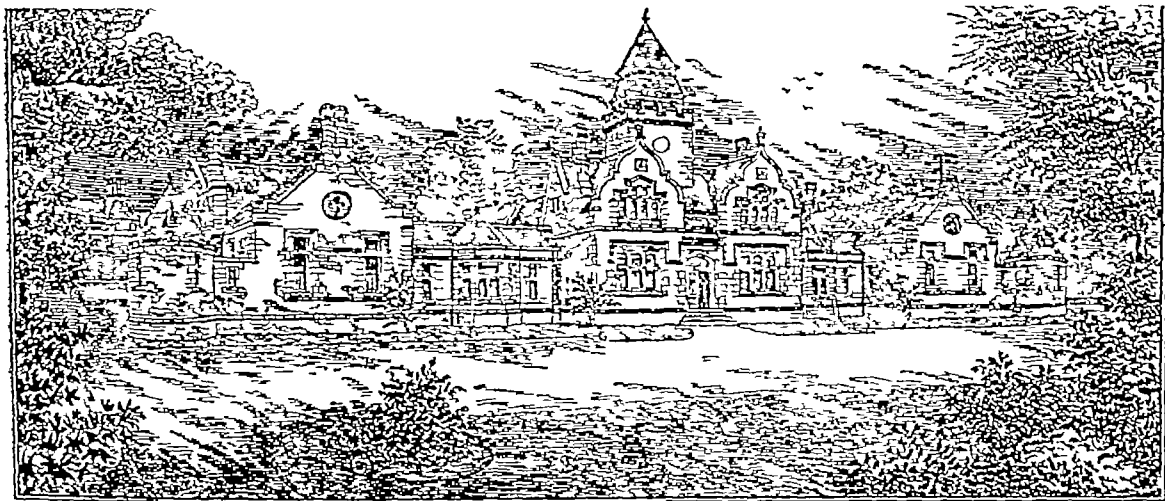
THIS cottage hospital has been constructed for Forres and the surrounding district, which has a population of upwards of 10,000, the town population being about 5000. The hospital owes its erection mainly to the munificence of Sir Donald A. Smith, K C M G, LL D Camb, a native of Forres but now of Montreal, Canada.

The designs for the building, originally planned by the late Mr John Rhind of Inverness, were submitted by the managers to Mr H. Saxon Snell to report upon, but in consequence of the decease of Mr Rhind before the working drawings were in hand, Mr Snell was asked to make

some distance in the rear of the present building it is proposed to erect at some future time a pavilion for fever cases as shown above by the small bird's eye view.

Accommodation is provided in the building now erected for 12 patients. The larger wards, containing 4 beds each, are 24 feet long by 20 feet wide and 13 feet high, giving a superficial area of 480 feet, or about 120 feet per bed, and a cubic space of 6240 feet, or 1560 feet per bed. The smaller wards for 2 beds each are 13 feet long by 20 feet wide, giving a superficial area of 260 feet or 130 feet per bed, and a cubic space of 3380 feet, or 1690 feet per bed. The lineal wall space given to each bed is 12 feet in the larger and 13 feet in the smaller wards.

The wards are warmed by ventilating stoves specially designed for the building with inlets through the walls for the admission of fresh air to them. The dry rooms and



such modifications in the design as he thought desirable and to superintend the carrying out of the work.

The principal entrance to the hospital is through the centre of the front block, a two-storey building containing on the ground floor the matrons and surgeons' rooms, operating room, kitchen and offices, and on the first floor bedrooms for the matron and nurses. At each side of this central building and separated from it by the connecting corridors hereafter referred to are blocks one storey high, containing the sick wards, each having one ward for the accommodation of four beds, and another for two beds. Behind the central block is a one storey building containing the laundry and also the mortuary and ambulance shed. At

corridors are warmed by "Galton stoves." Fresh air is admitted to the wards through the stove casings, in which it is warmed, and through air shafts in the walls which have adjustable hopper arrangements for the admission of the air at a height of 10½ feet to the under side of the hopper above the floor, by means of which the air has an upward impulse imparted to it which tends to prevent its sudden descent as a draught. These hoppers, of which there is one to each bed, can be closed at will. The foul air has its exit through ventilators in the roof.

The floors are of ordinary joisting with hard Canadian maple flooring in 3 in. widths, wax polished and with deal counter floors between them and the joisting.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT

REPORTS OF MEDICAL OFFICERS OF HEALTH.

County of Surrey—Dr Seaton, the county health officer has issued a somewhat voluminous report much of which has mainly a local interest. He points out that there has been great improvement in the preparation of the statistical returns by the several medical officers of health, and he tabulates these at length. But he does not think that the statistics as yet cover a sufficient term of years to justify his drawing deductions from them. Dr Seaton has held no less than thirty-six conferences with a view to securing isolation hospitals for the county but we believe that with one exception no substantial advance has as yet been made in this direction. In an appendix are included the analyses of the several local reports and it is stated that Dr Seaton's own report on the county will appear as a separate document.

West Sussex Combined Districts—This well known combination of sanitary districts which is under the care of Dr Charles Kelly now contains a population of over 106,000, it had, as a whole, during 1891 a birth rate of 27.8 and a death rate of 16.4 per 1000 living, the latter rate not taking

account of visitors to such places as Worthing and Little Hampton. The zymotic rate was 1.5 per 1000 and it is stated that by the addition of the Horsham urban district at the end of last year the compulsory notification of infectious diseases is now universal throughout the combined area. Dr Kelly's report, which covers no less than 215 pages deals separately with each of the eleven sanitary districts involved, and the vital statistics are considered in some detail both for the district as a whole and for each of its constituent parts.

Basford Rural District—Dr James S Tew reports that during 1891 the general death rate was 16.4 per 1000, and he discusses the various aspects of the vital statistics at some considerable length. Referring to the notification of infectious diseases he laments the absence of means of isolation but he states that even with this drawback and with the added one of an insufficient inspectional staff a large number of instances have been brought to light by the aid of notification which have admitted of the application of valuable remedial measures. No less than 252 cases of scarlet fever with nineteen deaths took place and the prevention of the disease was much hindered by the absence of a hospital. Improvements are in progress as to water-supply drainage works which need to be pushed, are at least under consideration. Public scavenging is on the whole a distinct success, and the current work of the district is evidently as well maintained and as well supervised as is practicable with the existing staff.

County of Renfrew—Dr Campbell Munro's first annual

may once more be pointed out, are likely to be permanently benefited thereby

The balance in hand at the end of 1891 amounted to the sum of £170 14s. On January 5th, 1892, the Proprietors of THE LANCET placed to the credit of the Fund the sum of £300. During the course of the year repayments to the amount of £5 have been made. The sum of £304 has been granted in relief either by way of loan or of gift, leaving a balance of £171 14s.

There have been considered altogether during the twelve months ending Dec 31st, 1892, 34 applications for relief (the number the previous year having been 27). In 19 cases assistance was afforded, either as a loan or as a gift, according to the request of the applicant, the amounts of the grants ranging from two pounds (given on a special occasion and for a special purpose) to £50.

The following are extracts from a few letters received from some of the recipients of the Fund —

CASE 120 — "Your kind gift from THE LANCET Fund I have safely to hand, and beg to tender my most grateful thanks for the kindness shown unto me in this my heavy bereavement."

CASE 121 (husband hopelessly insane) — "I beg to acknowledge the receipt of cheque for £25 from the Almoners of THE LANCET Fund, and I wish to express my most sincere and grateful thanks for this extreme benevolence and kindness. This timely assistance will indeed place me in a position enabling me to support our young family, and I do indeed most deeply appreciate this generosity. Should I ever be sufficiently successful in business to be able to do so, it will be my greatest desire to prove my gratitude for the present kindness by contributing to the Fund."

CASE 122 — "The substantial and prompt help which the Almoners have so benevolently accorded will prove of essential service in his great need. I called upon Dr. — to day and he begged me most earnestly to thank the Almoners for their kind and acceptable gift."

CASE 129 — "I thank the Almoners for their great kindness in granting me the loan, for which I enclose receipt. I can assure you it has come at a most opportune time, and I have no doubt will be a lasting benefit to me."

CASE 136 — "I beg to return my most sincere and heartfelt thanks for the gift of £15 and loan of £15 accorded to me by the Almoners of THE LANCET Relief Fund. This kindness will be a great boon in present circumstances and I shall ever feel grateful for it."

CASE 139 — "Although Mr. — continues to improve satisfactorily he is not equal to writing, therefore asks me to

do so for him to acknowledge your very kind letter received this morning with cheque for £20, kindly sent to him as a gift by the Almoners of THE LANCET Relief Fund in his great need and feeble health. No words of his or mine can sufficiently express the deep gratitude we both feel for the great goodness extended by them to us, and we can only hope and pray that our Heavenly Father may return it to each of them individually tenfold, for it is indeed a most noble and Christian act."

CASE 147 — "Will you please express my best thanks to the Almoners of THE LANCET Relief Fund for their goodness in granting me a gift of £10. I feel very grateful to them, it will help me and my children very much at the present time."

CASE 144 — "I received your kind letter with cheque for £10 enclosed, for which I beg you will convey to the Almoners my sincere thanks. It has indeed come at the time when I most needed it to enable me to still keep my house and home together. I trust God will reward those who have so kindly helped me in the time of need. The £10 will now enable me to keep on the house and have all my furniture saved."

CASE 149 — "I beg to acknowledge the receipt of £10 and request you to kindly convey to the Almoners my most sincere thanks. I owe them a debt of everlasting gratitude as I shall now be able to make a fresh start in life."

CASE 150 — "Allow me to tender my sincere thanks to the Almoners of THE LANCET Relief Fund for the gift of £5. Indeed it was extremely kind of them to help a foreigner in distress far from his kindred. You can imagine better than I can express my heartfelt gratitude for their kindness."

It will be observed that Case 121 speaks of her desire to prove her gratitude by (if possible) at some future time contributing to the Fund. During the course of last year the Almoners received a cheque which a medical practitioner kindly forwarded as a donation to the Fund. This of course had to be returned with expressions of thanks and regret that the Almoners were unable to avail themselves of the contribution. It may be well therefore to direct attention to the fact that the means of sustentation of the Fund are provided solely by the Proprietors of THE LANCET. The Secretary of the Fund is Mr. Edward Davies, to whom all communications should be addressed.

(Signed)

ANDREW CLARK, THOMAS WAKLEY,
THOMAS BRYANT, THOMAS WAKLEY, JUN
RICHARD QUAIN

Statement of Accounts for the Year ending Dec 31st, 1892

Dr.	£	s	d	By Loans —	£	s	d	Cr.
To Balance at Bank, Jan. 1st, 1892	170	14	0	Case No 118	50	0	0	£ s d
„ Proprietors of THE LANCET	300	0	0	„ 129	25	0	0	
„ Repayment of Loans —				„ 133	22	0	0	
Case No 23	£2	10	0	„ 136	15	0	0	
„ 25	2	10	0	„ 145	25	0	0	
		5	0					137 0 0
				By Gifts —				
				Case No 120	10	0	0	
				„ 121	25	0	0	
				„ 122	10	0	0	
				„ 125	15	0	0	
				„ 126	10	0	0	
				„ 135	2	0	0	
				„ 136	15	0	0	
				„ 139	20	0	0	
				„ 141	5	0	0	
				„ 144	10	0	0	
				„ 146	10	0	0	
				„ 147	10	0	0	
				„ 149	10	0	0	
				„ 150	5	0	0	
				„ 151	10	0	0	
								167 0 0
				By Balance at Bank Dec 31st, 1892	171	14	0	
								£475 14 0
	£475	14	0					

I find by the Bankers' Book that the actual balance on Jan. 1st, 1892, to the credit of the Fund was £170 14s., to which the sum of £300 was added by the Proprietors of THE LANCET on Jan 5th, 1892.

The balance at the Bankers at the present date is the sum of £171 14s. I have also checked the receipts for disbursements and find the above account strictly accurate.

December 30th, 1892

HENRY A. PITMAN Hon Auditor

increased to 17 last week and included 13 in Glasgow. The 9 fatal cases of diphtheria corresponded with the number in the previous week and included 6 in Glasgow. The deaths from scarlet fever, which had been 18 and 13 in the preceding two weeks, further declined to 7 last week, of which 5 occurred in Glasgow and 2 in Leith. The deaths referred to diseases of the respiratory organs in these towns which had been 193 and 163 in the preceding two weeks, rose again last week to 212 and exceeded by 9 the number in the corresponding week of last year. The causes of 49 or more than 6 per cent., of the deaths in the eight towns last week were not certified.

HEALTH OF DUBLIN

The death rate in Dublin, which had increased from 22.8 to 25.7 per 1000 in the preceding five weeks, further rose to 33.4 during the week ending Dec. 31st. During the thirteen weeks of the last quarter the death rate in the city averaged 24.4 per 1000 against 19.4 in London and 23.9 in Edinburgh. The 224 deaths in Dublin during the week under notice showed an increase of 45 upon the number in the preceding week, and included 5 which were referred to diarrhoea, 4 to "fever," 2 to whooping-cough, 1 to measles and not one either to small pox, scarlet fever, or diphtheria. In all, 12 deaths resulted from these principal zymotic diseases, equal to an annual rate of 1.8 per 1000, the zymotic death rate during the same period being 2.2 in London and 3.5 in Edinburgh. The fatal cases of diarrhoea, which had declined from 3 to 1 in the preceding three weeks, rose again to 5 last week. The deaths referred to different forms of "fever," which had increased from 2 to 9 in the previous three weeks, declined to 4 last week. The 2 fatal cases of whooping-cough exceeded the number recorded in any recent week. The 224 deaths registered in Dublin last week included 25 of infants under one year of age and 71 of persons aged upwards of sixty years, the deaths of infants showed a slight further increase, and those of elderly persons considerably exceeded those recorded in any recent week. Thirteen inquest cases and 7 deaths from violence were registered, and 80 or more than a third, of the deaths occurred in public institutions. The causes of 15 or nearly 7 per cent., of the deaths in the city last week were not certified.

THE SERVICES

MOVEMENTS OF MEDICAL STAFF

Surgeon Captain Beatty has arrived at Sierra Leone and **Surgeon Captain McLoughlin** has left for England. **Surgeon Captains Mills and Squire** have left Madras on completion of their tour of service. **Surgeon Major Emerson** and **Surgeon Captain Robinson** have obtained leave from Madras and **Surgeon Lieutenant Colonel Macrobis** has been transferred to Kassaul. **Surgeon Lieutenant Colonel Bridges** has obtained leave of absence from Weedin and **Surgeon Major Hodson** from Portsmouth. We understand that **Surgeon Colonel T. Maunsell** will probably be appointed to fill the caused vacancy in India by the death of **Surgeon Colonel Godwin**.

ARMY MEDICAL SERVICE

Surgeon Colonel Preston has been selected for the appointment of **Principal Medical Officer for the China Station** and leaves shortly for Hong Kong.

MILITIA MEDICAL STAFF

Surgeon Lieutenant Colonel Sir William Miller, Knt. M.D. the London Artillery (Southern Division, Royal Artillery) retires with permission to retain his rank and to wear the prescribed uniform on his retirement (dated Jan. 4th, 1893).

INDIA AND THE INDIAN MEDICAL SERVICES

The undermentioned **Surgeon Lieutenants** appointed to the Bengal Establishment reported their arrival at Bombay on Nov. 1st, 1892—**Patrick Balfour Haig**, **Thos. Wm. Archer Ballerton**, **Ralph Henry Maddox**, **Harry George Melville**, **Arthur Oldham Hubbard**, **Herbert Austen Smith**, **George McIver Campbell Smith** and **Joseph George Hulbert**. The undermentioned officers have returned from furlough out of India—**Squadron Officer M.L. Surgeon Captain G. C. Hall, I.M.S.**, and **Surgeon Captain P. C. H. Strickland, I.M.S.** Under instructions from Army Headquarters, India, it is notified for information that the under-

mentioned officer of the Army Medical Staff, expected from England for duty in India, has been posted to the Bombay Command—**Surgeon-Major J. Fitzgerald Brodie**, in augmentation of establishment. **Medical Staff-Surgeon Captain R. Holvoake** has been granted leave to remain in England from Nov. 26th, 1892, to May 25th, 1893, in extension of the leave **Surgeon-Captain H. W. Elphick**, Officiating Civil Surgeon, on being relieved by **Surgeon-Captain W. G. P. Alpin**, has been transferred from Ghazipur to Muzaffarnagar. **Surgeon Major A. F. Ferguson, M.B., C.M.**, has been appointed to act as Civil Surgeon, Shikarpur, and **C. J. Sarkis, M.B., C.M.**, to act as Civil Surgeon, Ahmednagar in addition to his own duties, during the absence of **Surgeon Major W. G. H. Henderson, F.R.C.S.I.** **Veterinary Lieutenant G. H. Evans** is appointed to the Civil Veterinary Department on probation and posted to Burma. **Surgeon Captain J. G. Jordan**, Officiating Civil Surgeon of Jessore, is appointed to act as Civil Surgeon of Noakhali, during the absence, on deputation, of **Surgeon-Lieutenant Colonel Kahl Pada Gupta**, or until further orders. This cancels the notification of Nov. 22nd, 1892, appointing **Surgeon Major G. Shewan** to officiate as Civil Surgeon of Noakhali. **Surgeon Captain P. W. O. Gorman** is appointed to act as Civil Surgeon of Jessore. **Surgeon Lieutenant-Colonel E. Bovill**, Officiating Civil Surgeon of Murshidabad, is appointed to officiate as Civil Surgeon of Shahabad during the absence, on leave, of **Surgeon Major R. Macrae**, or until further orders. **Surgeon Lieutenant Colonel S. L. Dobie, I.M.S.**, Superintendent, Lunatic Asylum, Madras, is appointed to act as Principal Medical Storekeeper, Madras during the employment of **Brigade-Surgeon-Lieutenant Colonel D. F. Bateman** on other duty. The services of **Surgeon-Major T. R. Macdonald**, Superintendent of the Nagpur Central Gaol, are placed permanently at the disposal of the Government of Bengal. **Surgeon-Colonel John Chas. Morice**, Principal Medical Officer, Presidency District, has been permitted to retire from the service from Oct. 24th, 1892, subject to Her Majesty's approval.

NAVAL MEDICAL SERVICE

Fleet-Surgeon Joseph Wood, M.D. has been placed on the Retired List of his rank at his own request.

VOLUNTEER CORPS

Artillery Surgeon-Lieutenant M. Mackenzie to be **Surgeon-Captain** (dated Jan. 4th, 1893)—**1st Gloucestershire Surgeon-Lieutenant-Colonel F. P. Lansdown** resigns his commission, also is permitted to retain his rank and to continue to wear the uniform of the Corps on his retirement (dated Jan. 4th, 1893).

On Dec. 14th, 1892, the third levée of H.E. Lord Harris, G.C.I.E. was held in Bombay. Among the 624 presentations made were the following members of the medical profession—**Arnott**, **Brigade Surgeon-Lieutenant Colonel Banks**, **Brigade-Surgeon Lieutenant-Colonel Boyd, H. W.**, **Surgeon-Major Child**, **Surgeon Captain Crimmin**, **Surgeon Captain Cliffe**, **Surgeon R.N.**, **Dev J. Surgeon Major Dimmock**, **H. P.**, **Surgeon Major Edmonds**, **G. Surgeon R.N. Fooks**, **Surgeon Major Gravfoot**, **Surgeon-Captain Herbert**, **H. Surgeon-Captain I.M.S.**, **Hajel**, **Surgeon Captain I.M.S.**, **MacCartie**, **Surgeon Major Maconachie**, **G. A.**, **Brigade Surgeon-Lieutenant Colonel Mills**, **J.**, **Veterinary Surgeon A.V.D.**, **Meyer**, **Surgeon Captain Parker**, **J. Surgeon Major Piddle**, **Surgeon Lieutenant-Colonel Underwood E.T.**, **Dr. Waters G.**, **Surgeon Lieutenant Colonel**.

ARMY MEDICAL CHANGES

Under the above heading our contemporary the *Army and Navy Gazette* has some remarks on the difficulties that exist at present in arranging for the various changes and relief at home and abroad, and is of opinion that much of the disturbance of personnel might have been avoided if the original warrant had been adhered to and extension or service had only been granted when it was distinctly required in the interest of the public service and the officer had in such cases been seconded. In two years about thirty out of thirty-four administrative officers will have changed stations. We cannot believe that there is any foundation for the rumour that the present principal medical officer at Gibraltar will be brought home from that station to fill a vacancy that will occur in the Director General's office at home. We need scarcely reiterate what we have so often said—viz. that, in our opinion, any extension of service in the administrative grades should be quite exceptional and that the officer so extended should be seconded. Any other system can only prove very unfair to

report on the health and sanitary condition of the county of Renfrew is, as it should be, a very complete and exhaustive document. It enters fully into all the various health and other allied considerations affecting the county, and it may be taken as intended to serve as the basis for future work, and as affording a means by which comparison can be made in the future between what now exists and that which will be brought about as the result of a careful and skilled sanitary administration. The county starts with substantial means for the isolation of the infectious fevers, and it has local advantages in being a well watered district, which should lead to the abandonment of existing suspicious supplies in favour of wholesome and properly delivered services. Drainage is a subject which will involve much labour, especially in connexion with the existing pollution of streams and the actual circumstances of individual localities and villages. The state of the county as regards infectious diseases having been considered, the several administrative questions involved in such matters as dairy inspection, control of slaughter-houses, bakehouses and common lodging houses are discussed, and a series of tables together with a disease chart are appended. The report, in fact, is typical of what such an initial report should be.

Halifax Urban District—Mr Ainley records a death rate of 22.6 per 1000 during 1891, the corresponding zymotic rate being 1.91. The infantile mortality for children under one year of age gave a death rate of 172 per 1000 births. This is excessive, but it hardly seems related to factory labour by mothers, for of 660 deaths under five years of age, the mothers were in 517 cases engaged in domestic work at home only 50 having to leave their homes for any kind of labour. A new infectious hospital has not been decided on and 111 cases were admitted into the existing one during the year. Good work has been undertaken as regards artisans' dwellings and house-to-house inspection is maintained. But improvement is strongly called for with respect to the removal of house and other refuse.

Fulham Parish—This district had a general death rate of 19.7 during 1891. The cases of notified disease were 330 in number, and of these 73 were cases of diphtheria and 55 of enteric fever. These notifications led to a large amount of remedial work as regards drainage nuisances &c. The report deals very largely with general questions, such as memoranda of the Local Government Board and conferences of health officers on the subject of the Housing of the Working Classes Act, 1890, but it also contains a good deal of information as to the principal sanitary circumstances of Fulham and as to its wants. The record given by Mr Cooney as to powers, duties and modes of action to secure amendment as regards unhealthy areas and dwellings is a useful one for local purposes.

City of Dublin—Omitting deaths of persons in public institutions who came from places outside the city, the death rate during 1891 was 25.5 per 1000. Sir Charles Cameron points out that whilst typhus fever has almost disappeared from Dublin, enteric fever shows no tendency to decline. A mean of some 42 deaths from this cause occurred annually from 1881 to 1888, then the number rose to 71 in 1889 it was 47 in 1890 and in 1891 it reached no less than 172. The causes of this maintained prevalence are held to be obscure but pollution of subsoil and defective means of drainage in the case of a city built on a waterlogged site are set out as prime factors, and Sir Charles Cameron seems convinced that the city water collected from so sparsely populated a catchment area cannot be at fault, neither is any evidence suggested as to the possibility of pollution of some main water carrier, whether running full or not. The whole subject of the etiology of enteric fever is fully discussed in the volume, which has in consequence considerable interest.

County of Lancaster—Mr Sergeant has issued a somewhat voluminous report on this county during 1891, the volume containing summaries of all the local health officers' reports. Comparative statistics are displayed in a way that must have local value, and the incidence of the several infectious fevers in the different portions of the county is considered in some detail. Notification is now in operation in seventy urban and fifteen rural districts, but hospitals for infectious diseases are much needed and it is evidently Mr Sergeant's opinion that such hospitals, to be of real use, must keep their ordinary wards free in so far as cost to those occupying them is concerned. In replacement of the old midden privy system we find that the pail system, waste water closets and the ordinary water carriage system are in a number of places gradually coming into operation. Questions of scavenging, water supply,

sewerage &c. are discussed under several headings, and it can hardly be that such comparative data as are afforded by the local sanitary authorities without serving as a stimulus to those who see that satisfactory results have followed in those districts where most sanitary progress has been made.

VITAL STATISTICS

HEALTH OF ENGLISH TOWNS.

In thirty three of the largest English towns 5293 births and 4751 deaths were registered during the week ending Dec. 31st. The annual rate of mortality in these towns, which has been 20.7 and 20.0 per 1000 in the preceding two weeks, rose again last week to 24.3, a higher rate than in any week since March last. In London the rate was 22.4 per 1000, while it averaged 25.7 in the thirty two provincial towns. The lowest rates in these towns were 15.7 in Croydon, 16.2 in Huddersfield, 17.5 in Portsmouth and 17.8 in Burnley; the highest rates were 31.9 in Liverpool, 32.0 in Blackburn, 34.0 in Salford and 34.1 in Manchester. The 4751 deaths included 473 which were referred to the principal zymotic diseases, against 448 and 383 in the preceding two weeks, of these, 168 resulted from measles, 103 from whooping-cough, 73 from diphtheria, 54 from scarlet fever, 36 from diarrhoea, 36 from "fever" (principally enteric) and 3 from small pox. No fatal case of any of these diseases occurred last week. Burnley, Huddersfield and Halifax, in the other towns, caused the lowest rates in Derby and Wolverhampton, and the highest rates in Hull, Cardiff, Brighton, Nottingham and Salford. The greatest mortality from measles occurred in West Ham, Cardiff, Bolton, Nottingham, Brighton, Hull and Salford, from scarlet fever in Preston, from whooping-cough in Swansea, Nottingham, Bradford, Portsmouth, Birmingham and Salford, from "fever" in Sunderland and Nottingham and from diarrhoea in Preston. The 73 deaths from diphtheria included 50 in London, 3 in Cardiff, and 3 in Manchester. One death from small pox was registered in Manchester, 1 in Salford, and 1 in Oldham, but not in any other of the thirty three large towns, 39 cases of the disease were under treatment in the Metropolitan Asylum Hospitals and not one in the Highgate Small pox Hospital on Saturday last. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 3254, against 3772, 3626 and 3299 on the preceding three Saturdays, 24 new cases were admitted during the week, against 291 and 241 in the previous two weeks. The deaths referred to diseases of the respiratory organs in London, which had increased from 339 to 380 in the preceding two weeks, further rose to 523 last week, but were 90 below the correct average. The causes of 136, or 2.9 per cent., of the death in the thirty three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Leicester, Bolton, Sunderland, and in five other small towns, the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, Blackburn, Hull and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 25.5 and 24.0 per 1000 in the preceding two weeks, rose again to 28.5 during the week ending Dec. 31st, and exceeded by 4.2 per 1000 the mean rate during the same period in the thirty three large English towns. The rates in the eight Scotch towns ranged from 17.2 in Perth and 18.2 in Greenock to 32.2 in Paisley and 34.9 in Leith. The 793 deaths in these towns included 86 which were referred to measles, 17 to whooping-cough, 9 to diphtheria, 7 to scarlet fever, 7 to diarrhoea, 5 to "fever" and not one to small pox. In all, 131 deaths resulted from these principal zymotic diseases, against 136 and 132 in the preceding two weeks. These 131 deaths were equal to an annual rate of 4.7 per 1000, which was 2.3 above the mean rate last week from the same diseases in the thirty three large English towns. The fatal cases of measles, which had declined from 112 to 86 in the preceding four weeks, were again 86 last week, of which 41 occurred in Glasgow, 15 in Leith, 14 in Edinburgh and 11 in Dundee. The deaths referred to whooping-cough, which had been 5 and 11 in the previous two weeks, further

tion menting social ostracism, the punishment being often specially directed against the fairer members of a deserter's household, who were made to feel that it was little short of criminal to be related to men professing a belief in the pithe cold ancestry of man. Again, the circumstances of the great discomfiture which Owen sustained at the hands of Mr Huxley in their controversy on the relative size of the posterior cornu and hippocampus minor in the brain of man and ape would not have weakened any reluctance which Owen might have felt to joining a camp whose most redoubtable combatant was the author of "Man's Place in Nature." Owen also had been brought up in strictly evangelical principles and would have hesitated long and poignantly before abandoning dogmas and beliefs hallowed by the tenderest associations for the extreme alternative of professing a thorough accord with Darwin, who when asked pathetically in a letter from Lyell, "Have you nothing to say consolatory to the dignity of man?" replied, not in the words of Goethe, "We bid you hope," but in the one word "Nothing." A life and letters of Sir Richard Owen will probably be soon forthcoming to tell us more than we now know of his views on the doctrine of evolution.

I am, Sirs, yours truly,

West Brighton, Jan. 2nd, 1893.

W W J

"SOME EFFECTS OF WOUNDS OF THE HEART"

To the Editors of THE LANCET

SIRS,—The annotation under the above heading which appeared in THE LANCET of Dec. 31st, page 1521, brings under notice one of the most important questions in medical jurisprudence and one around which centre many important historical associations. In considering the subject I think the natural division of such wounds is—(1) Wounds of the ventricles and (2) wounds of the auricles, these being subdivided into (c) penetrating and (b) non penetrating. Such an arrangement seems to have been followed by the older writers, commencing with M. Morand, whose work, "Observation sur une Plaque du Cœur," was published in 1735. Garé noticed ("Opera Omnia," liber viii. chapter viii.) that wounds of the ventricle cause death slowly. The great significance of this is dealt with and clearly shown by Beck in his "Jurisprudence." Baron Dupuytren gives Latour's case of 'a ball extracted from the right ventricle near to the apex of the heart, and partly covered by the pericardium six years after the injury was inflicted. William Harvey found a bullet in the heart of a stag. Even wounds that penetrate the auricle are not necessarily suddenly fatal. Dr Grace of Fife's case lasted two days after puncture of the right auricle, and Surgeon Billy's case—wound of the right ventricle—survived five days, the longest period on record that I know of. Death may, however, very suddenly result from the wound for, although the Duc de Berry survived his injury some hours, King Henry IV died almost immediately from the stab of the assassin Ravallac. A very slight puncture of the auricle may quickly cause death. Two such instances are on record (1) The Sardinian nobleman's case, in 1728, at the Court of Victor Amadeus, and (2) that of Admiral Villeneuve, who on April 22nd, 1805, killed himself by piercing the right auricle of his heart with a fine needle. But perhaps the most remarkable case on record is that reported in the *Manitoba Lancet* vol. 1., and copied by me in my article "The Literature of Punctured and Lacerated Wounds of the Heart," in which an attempt was made to remove by operation a needle from the interior of the right ventricle of a medical student. The operation was unsuccessful, but the manipulation of the heart displaced the needle from the position in which it was causing great distress, and for years the patient suffered no inconvenience.

I am, Sirs, yours truly

GEORGE FOX, F.R.C.S.I.

Dublin, Dec. 31st 1892.

"THE TREATMENT OF SEVERE CASES OF CLUB-FOOT"

To the Editors of THE LANCET

SIRS,—The discussion raised by Mr Edmund Owen's paper is a very interesting one and affords an opportunity of once more advocating the forcible correction of club-foot by

1 Medical, Feb 5th, 1893.

means of the Thomas wrench. By this instrument the most intractable cases are materially benefited and, if properly used, there is no occasion for slough or abrasion. I have now treated over thirty cases of the severest types of talipes, in patients whose ages varied from six to twenty three years, with most encouraging results. In some of them I have compared the progress of excision of the astragalus of the one foot with more forcible wrenching of the other. In each case the result obviously favoured the conservative method. By stretching the foot the structures yield in the precise order of their tension and, if carefully performed the skin need never be ruptured. The secret of success lies in the frequent renewal of the effort before the structures have had sufficient time to recover from the strain. Pressure upon suitable splints should be rigorously applied in the intervals between the stretching. It is instructive to note the mobilising power of the wrench. A patient appears with a foot upon which the hand can scarcely make any impression. The wrench is applied, exercised and withdrawn. If it has been effective the surgeon has no difficulty in freely moving the stretched foot into positions which were before impossible. Having had experience of several cases of tarsotomy, I can confidently recommend the routine employment in severe cases of the club-foot wrench.

I am, Sirs, yours faithfully,

Liverpool, Dec. 19th, 1892.

ROBERT JONES.

MEDICAL DEFENCE SOCIETIES

To the Editors of THE LANCET

SIRS,—The steady increase in the number of members of our two medical protection societies shows that many practitioners at any rate have awakened to the importance and usefulness of such societies. I trust in time the numbers now reckoned by hundreds will be reckoned by thousands. I have been a member of one of these societies for about two years, and I think it only right to relate a recent experience of my own as showing that it is not only consultants and general practitioners who may benefit by such membership, but younger members of the profession also, on whom the cares and anxieties of general practice have not as yet descended. I refer to residents in hospitals and other institutions. I am the senior resident here, and on an occasion some time ago had to put outside a drunken patient who was creating much disturbance and declining to leave the premises. He had a child with him—presumably for the purpose of helping him to find the way, he being very drunk—and in going down the steps fell over the child on to the pavement. No complaint of injury was then made, but next day the man appeared again, saying he was suffering from "a fractured wrist and bruised elbow," and wanting to know "what I was going to do for him." On my replying, "Nothing," he said he would make me "pay for it," and the next day I received a solicitor's letter demanding damages and costs under threat of issue of writ. I knew the injuries named could not have been done at the time of the fall, if at all, and I found on inquiry that he had been treated at the Royal Southern Hospital for very slight bruises of the elbow only. I communicated with the Medical Defence Union and by return of post received a reply stating that as the man had declined to leave the dispensary I was quite justified in using reasonable force to put him out and that the Union would be prepared to defend me in any action which might be taken against me. Our solicitor was instructed to write to this man's solicitor offering to accept service of writ on my behalf but from that day to this we have heard nothing more of the case. That is now four months ago, and I am therefore justified in assuming that the attempt has been foiled by the prompt action of the Union.

I am, Sirs, yours faithfully

E PETRONELL MANBY, M.D. Cantab

South Dispensary Liverpool Jan. 2nd 1893.

"ON THE DIAGNOSIS OF THE DIFFERENT FORMS OF PROSTATIC ENLARGEMENT"

To the Editors of THE LANCET

SIRS,—Will you allow me to trespass on your space for the last time by quoting a portion of a letter Mr C Mansell Moullin sent to me in June last when returning my instrument. He says—"I am much obliged to you and am exceedingly pleased with the instrument but I will try some modifications." The logical deductions are obvious,

those officers who are calculating on the promotion to which they would be entitled if the regulations were strictly adhered to

MANLICHER RIFLE BULLET WOUNDS

A Chilean officer, Colonel Talavera, who has been studying medicine, has published as his graduation thesis a study of the wounds inflicted by the Manlicher bullet. His experience leads him to the conclusion that the track made by the bullet through soft parts only has a circular section corresponding more or less exactly to that of the bullet. In these cases there are no foreign bodies found in the track and the wound generally heals without suppuration in from five to ten days. When the end of a long bone is struck a number of splinters are produced and the wound takes a long time to heal. Sometimes, however, the bullet makes a clean perforating wound through the bone and then ten days may suffice for a cure. Where the shaft of a long bone is hit at a short distance the effects may be described as "explosive." When the bullet enters the thorax it sometimes becomes embedded in the lung and remains quiescent there, giving rise neither to an abscess nor to empyema.

THE SCIENTIFIC STUDY OF INDIAN DISEASES

Surgeon Lieutenant Colonel Roe, I.M.S., who has been studying for some time in Paris and Germany, leave having been granted him for that purpose by the Indian Government, has returned to India and proceeds to Sialkot. In Paris he practically investigated the method of inoculating against hydrophobia, and both there and in Germany he studied the latest methods of bacteriological research and inquired into all the latest hygienic improvements introduced into the French and German armies, consequently this officer should be in a position to carry out and apply the results of his labours to the pathological and bacteriological investigation of Indian diseases. It is understood that Surgeon Lieutenant-Colonel Roe has taken a complete bacteriological laboratory with him to India.

THE SICKNESS AT PESHAWAR

According to the last accounts from India the epidemic of fever which has prevailed so extensively of late at this station had shown marked signs of abatement. The ineffective state of the garrison, attributable to sickness at the time of Lord Roberts' visit, is described as something quite exceptional. Officers, non-commissioned officers and men were attacked and the number of soldiers in hospital or on the sick list was unusually large. The British regiments which suffered so much have been removed from Peshawar and a medical inquiry is taking place at present into the nature and causes of the disease.

Correspondence.

"Audi alteram partem"

THE LATE DR WALSH

To the Editors of THE LANCET

SIRS,—Whilst the name of Dr Walsh is still fresh in the memory I should consider it a privilege if you would allow me to occupy a few lines in order to say how thoroughly I can endorse all that his biographer has related of him in your columns. This wish arises from no evanescent feeling aroused by the sorrow of his loss, it having been a life-long conviction with me that, regarded from all points of view, there was no more distinguished man in our profession than Dr Walsh. In the early part of my career, having perused some of his writings and compared them with the looseness and unsatisfactory conclusions of much of the contemporary medical literature, I naturally looked upon him as the "coming man." This opinion grew stronger after the publication of his model books on chest diseases. I was therefore always waiting in expectation of seeing him take not only his right position in the profession, but blazing forth like a luminary as a leading representative of medicine in the world at large. As years went on I never lost my faith, but was forced to add to it grievous disappointment at not seeing my anticipations realised. Personal reasons, such as delicate health, can have been the only cause of the want of recognition of Dr Walsh as one of the great leaders of the profession. I had unfortunately only a slight personal acquaintance with him, but whenever

we did meet I was always charmed. His mental powers were certainly of a very remarkable kind, for he not only had a spark of the heavenly fire of which he speaks in his paper on "Genius," but he was possessed of faculties which rarely accompany it—precision and power of observation, which are the great characteristics of the scientific man. This combination of talents which are generally considered incompatible was present in a most remarkable manner in the case of Dr Walsh. One of your correspondents has called attention to the "Society of Observation" which Dr Walsh founded, and he further gives the names of many of its members now living, he also speaks with uncertainty as to the date of its dissolution and the home of its records. Some of the gentlemen mentioned will be able, I should think, to afford the required information, but if not, assuredly the secretary, Dr Ballard, would be able to do so. Being at present away from home I am unable to verify my statement, but I believe Dr Ballard was the writer or compiler of the little book issued by the Society and entitled "What to Observe." It was quite at the close of the Society's existence that I was requested to join and therefore only attended two or three meetings. This was, if my memory serves me right, in the year 1854. Its dissolution took place from the exigencies of increasing private practice and hospital work required of its members. The Society was the literal exponent of Dr Walsh's views, its object being the obtaining more accurate reports of cases than had hitherto been attempted by noting down every particular, however apparently trivial, and so keeping the mind quite unbiassed by any foregone conclusions. The method, it need scarcely be said, was most irksome, to some it seemed purposeless and often ludicrous. I may mention an example. The human body was divided out with capital letters and subdivided by smaller ones. At one of the last meetings a member was reading a case of some cerebral disease when he came to the big letter signifying abdomen and the little letter signifying bowels, and reported the usual action on that day. He was stopped by the President and asked if he knew this personally as a fact, and the answer being that he was only informed of it by others, he was requested to make a query to this item of the report. The reading went on until the same letter was again reached, when the same statement was made, with the assuring interpolation of the reporter that he saw the patient go to the closet. "But," said Dr Walsh, "did you follow him to obtain accurate knowledge of the result?" This was a little too much for the meeting and roused a general laugh. The method adopted by the President was no doubt the correct one, and the dissolution of the Society would have to be regarded as a loss to medicine did we not know that the system of reporting is now carried on in the most perfect manner at most of the hospitals.

From what I knew of Dr Walsh, and looking upon his varied abilities whilst viewing him in many other aspects, I recognised during his lifetime no greater man in our profession.

I am, Sirs, your obedient servant,

Jan 3rd, 1893

SAMUEL WILKS.

THE LATE SIR RICHARD OWEN

To the Editors of THE LANCET

SIRS,—The admirable leading article on the late Sir R. Owen, and the late Dr Walsh, which appeared in THE LANCET of Dec 24th, makes a brief allusion to his attitude towards Darwinism. It is a puzzling study to endeavour to make out his precise opinion of the great doctrine which has effected, and is effecting, such a stupendous revolution in human thought. When the famous review of the "Origin of Species" appeared in the *Quarterly* from the pen of the late Bishop Wilberforce it was generally considered that the scientific "points" of that truculently hostile essay had been supplied to his lordship by Owen. It appears probable that subsequently Owen's views were considerably modified and that he gave at least a qualified adherence to the new view of life and existence. Many of his contemporaries thirty years ago were somewhat in the state of mind of Carlyle, who cursed Darwin's theory, yet (*pace* Froude) "greatly feared it would turn out true." It is not unlikely that to some extent Owen was under the pressure of influence in a high quarter which was brought to bear on him for the purpose of keeping him steady in the ranks of orthodox theology. Such influence as is here indicated was not unfelt by Sir Charles Lyell and much resentment was shown when that eminent geologist crossed the rubicon and became an avowed supporter of the new doctrine. Such a confession of faith was regarded as deser-

to isolate these cases and to have a separate medical man to attend such. Meantime, the County Lunatic Asylum has written refusing to take lunatics from the Sunderland Workhouse until it can show a clean bill of health.—At the late meeting of the Auckland Guardians the medical officer drew attention to the great hardship of his having to attend a small pox hospital with which his duties were in no wise connected, and to the fact that he had to suffer serious loss in his private practice in consequence. He asked therefore for a substantial increase in his salary if he continued to be identified with the small pox hospital. The subject was left open for further consideration by the guardians.

Cumberland

A deputation from the Trustees of the Town and Harbour of Maryport have waited on the Local Government Board at Whitehall relative to the proposed hospital at Maryport for the isolation of patients suffering from infectious disease. The Trustees are anxious to proceed with the erection of the hospital, and by this interview sought to shorten the preliminaries as much as possible.—Mr J G Wilson of Thistlewood has bequeathed £500 to the Cumberland Infirmary at Carlisle.—It has been decided to erect a new infirmary at Lancaster, the estimated cost of which will be about £17,000.

South Shields and the Inebriate Question

At a late meeting of the South Shields Guardians a letter was read from the British Medical Association asking the guardians to petition Parliament to initiate legislation for the compulsory reception and detention in special houses for curative purposes of diseased inebriates, but the guardians were indisposed to meddle in the matter as they felt it would be unwise for them to ask for legislation in advance of public opinion. The subject was not therefore further proceeded with.

Whitby

Mr Martin Simpson a well known Yorkshire geologist, died at Whitby a few days ago at the advanced age of ninety three. Mr Simpson was well known to medical visitors to Whitby, as he was for fifty years curator of its museum, indeed, he did much, if not to found, at least to develop the museum, together with the late Mr R Ripley, surgeon of that place. His published works had a distinct value of their own, including a "Monograph of Ammonites of the Yorkshire Liass," "The Fossils of the Yorkshire Liass," "A Guide to the Geology of the Yorkshire Coast," "Geology of the Whitby District" &c. Some of these works date as far back as 1843. It will be thus seen that Mr Simpson was a student of geology when it was a far less popular pursuit than it is at present.

Newcastle-on Tyne Jan 4th.

SCOTLAND

(FROM OUR OWN CORRESPONDENT)

Edinburgh Royal Infirmary Annual Report

THE statutory general meeting of the contributors to the Royal Infirmary was held on Monday, Lord Provost Russell presiding. The treasurer and clerk submitted the report by the managers for the year to Oct 1st last. The number of patients remaining in the hospital at Oct 1st, 1891, was 610, the number admitted from that date to Oct 1st 1892, was 8027, the total number treated being 8637. Of these there were dismissed cured, 3769, relieved, 2818, on other grounds, 884, and died in the hospital, 605, while the number remaining was 561. Of the cases brought to a termination 3844 were medical and 4232 surgical. The daily average number of children in the wards was 58, most of whom were treated in the surgical wards. The average daily number in the hospital was 652, the greatest number being 691 and the lowest 575. The average time each patient was under treatment was 26.6 days. In the preceding year the total number of patients treated was 8769 and the average daily number in the hospital was 648, and the average time each patient was under treatment was 26.9 days. Of the cases 3607 were from Edinburgh, 544 from Leith and 3925 from the country. The percentage of deaths to the whole of the medical and surgical cases was 7.0 but, deducting 134 which occurred within forty eight hours after admission the percentage was reduced to 5.4. The number of patients admitted to the Convalescent House was only 621, owing

to the closing of the house from June for extension. In addition to the number of inpatients given above there were about 23,000 patients treated in the out-patient departments, which include special departments. The ordinary income was £30,630 10s 3d, as compared with £31,167 13s 11d in the previous year. The income includes donations and legacies under £100. The managers point out with satisfaction that the sum subscribed by the country districts has increased, but that the church collections in the city are still below what they were. The ordinary expenditure has been £41,969 19s 5d, as against £40,400 10s 9d for the preceding year. This increase is due to the greater cost of articles of maintenance, an increase in wages and a larger expenditure on furnishing and repairs. During the year a sum of £11,699 12s 6d was expended on the erection of the new home for nurses, two new lecture theatres and other necessary additions. There was also spent on the purchase of property for the extension of the infirmary the sum of £17,997 5s 1d. Owing to these various causes the debt now due to the bank is £36,979 8s 9d and in view of this the managers make an appeal for large benefactions. Reference is then made to the nursing staff, and it appears that during the year 593 applications were received for admission to the training school, while several requests to train pupils for other institutions had to be refused. The most important points in the history of the infirmary during the year are the completion and occupation of the new home for nurses. This allows of an increase in the number of nurses, which was necessary. The dispensing department is also to be enlarged. A detailed account is given of the negotiations in connexion with the application by the Scottish Association for the Medical Education of Women for their students to be admitted to the infirmary for clinical instruction. Owing to the acquisition of property in Lauriston lane two wards were set free, and these, furnished with twenty beds each, were made available for the instruction of women without encroaching on the wards hitherto used by male students. Arrangements have further been made whereby women students may receive clinical instruction in one of the general medical wards and in the special departments, so that in all 162 beds have been placed at their disposal. In addition they are allowed to attend the out patient department and the pathological theatre at certain times. The report then deals with the negotiations regarding the purchase of the site of the old Sick Children's Hospital, which were successfully carried out, and it is hoped money will be forthcoming for building on the ground thus acquired. The Convalescent House when completed will have accommodation for 100 patients.

The Health of Edinburgh

For the last week of the year the deaths numbered 118, making the rate of mortality 23 per 1000. Of the total deaths 19 were due to brain diseases, 56 to chest diseases, 12 to debility and age and 17 to zymotic diseases, of which 2 were due to diphtheria, 13 to measles and 2 to whooping cough. The intimations for the week were Typhoid fever, 3, diphtheria, 4, small pox, 1, scarlet fever, 43, and measles, 316. For the year the number of deaths was 4746, making the death rate 17.92 per 1000. There were 1742 deaths under five years and 1170 above sixty, of which 199 were above eighty and 25 above ninety years. Diseases of the chest caused 1607 deaths and zymotic diseases 641, of which 3 were due to typhus fever, 23 to typhoid fever, 42 to diphtheria, 69 to scarlet fever, 396 to measles, 82 to whooping cough, 20 to erysipelas and 1 to small pox. The intimations for the year were 10,124 and comprised 18 typhus fever, 238 typhoid fever, 203 diphtheria, 8 small pox, 1856 scarlet fever and 7801 measles.

Health of Leith

The mortality in Leith last week was at the rate of 34.91 per 1000. There were 2 deaths from scarlet fever and 14 from measles.

The Christmas Vacation in Edinburgh

Classes resume to-morrow (Wednesday). There has been a good deal of grumbling, as there always is over the shortness of the holiday, it is only of a fortnight's duration.

The City Hospital, Edinburgh

The number of cases treated in this hospital during the year was 2144 and comprised Typhus fever 16 typhoid fever 132, diphtheria 75, small pox 8, scarlet fever 932, measles 493, whooping cough 54, erysipelas 172, influenza 39 and 223 were admitted for observation or placed in quarantine. The deaths numbered 124 or 5.78 per cent January 3rd.

and those who will contrast my article with Mr Moulin's account of his instrument will form their own opinions as to the "borrowing of ideas" and "misapprehensions." I should be most pleased to submit my urethrometer to you or any other judge. It is now skilfully perfected by the Messrs Arnold. For my part I did not wish Mr Moulin to assume the seraphic abnegation which he now displays in disclaiming all originality!—I am, Sirs, your obedient servant,
Crouch End, Dec. 31st 1892. JAMES MACMURDO

MANCHESTER

(FROM OUR OWN CORRESPONDENT)

The Refuse Disposal Difficulty

THE Corporation have received a somewhat unexpected rebuff at the hands of the Local Government Board, who have refused to sanction a loan of some £60,000 for the purchase of Rampton Manor in Nottinghamshire, an estate which they had agreed subject to the Board's consent, to purchase and use for the disposal of such portion of the nightsoil of Manchester as cannot be utilised at Carrington, the Corporation's present sewage farm in Cheshire. As I mentioned in a previous communication, a long and careful inquiry was held several weeks ago, both at Rampton and here, by Mr Smith, one of the engineering inspectors of the Board and a great deal of evidence was tendered both for and against the proposal of the Corporation. The grounds on which the Board have refused their sanction appear to be, first, the distance over which the refuse would have to be carried by rail, and secondly, the strong opposition which the rural sanitary authority of Nottinghamshire has raised against the scheme. The result, however, of the Board's action in this matter will be to considerably hamper our city council in their attempts to dispose of the night soil and excremental refuse of the city. According to the evidence at the inquiry Rampton is most favourably situated and is well adapted for the purposes to which the Corporation desire to apply it, the place is very sparsely populated and the land appears to be greatly in need of manure. In fact, a considerable number of the farmers in the district have signed a memorial requesting that Manchester should be permitted to send manure to Rampton, and expressing the opinion that the land would be much improved by the process. It will be interesting to note how the Corporation will meet the present emergency. The city is fast increasing in size and will probably absorb many of the outlying districts as time goes on. No one has as yet proposed that the highly offensive contents of our middens and pails should be burnt within the city, and yet it is difficult to see how otherwise it is to be disposed of, unless some means can be devised of obtaining land to which the excremental refuse of the city may be applied.

Public Lavatories

For many years past complaints have been common as to the serious inconveniences to which visitors to Manchester (especially ladies) have been subjected because of the almost complete want of public lavatories within the city. This want is now in a fair way of being supplied. About two years since a pair of lavatories were fitted up in Albert-square to replace the hideous structure which previously did duty for a lavatory, and which was unanimously voted a great eyesore to a part of the city having some pretensions to architectural beauty. The present lavatories are two in number—one for each sex. They are built underground, after the fashion of those at the bottom of Regent-street, London. The lavatories are fairly well lighted, they are fitted with all necessary appointments and are free from objectionable smell. They are the property of the Corporation and are kept scrupulously clean by persons appointed for that purpose. A small charge is made for the use of the lavatory and water closets, as is the case in London. The public look upon them as a great boon, and the Corporation are so well satisfied with their experiment in Albert-square that they are now engaged in the construction of another similar pair under the pavement opposite the Royal Infirmary in Piccadilly.

Continued Spread of Small pox

Small pox still continues to spread in Manchester in spite of the efforts which have hitherto been made to stamp it out. In the first week of December twelve cases of the disease

were notified, in the second week fourteen cases, in the third nineteen and last week twenty cases. With one exception every one of the patients has been removed to the Monsall Hospital, which is accordingly becoming crowded. At the present time there are reported to be sixty seven cases of small pox at Monsall, and as all these cases have been sent in within the last few weeks there is no immediate probability that many of them will be discharged. The disease seems to be present in all the principal districts of the city, and recently it has shown a tendency to spread in the direction of Chorlton, which district was comparatively free from infection during the first few weeks of the epidemic. The medical officer of health has issued circulars to the millowners, proprietors of business establishments, occupiers of factories and workshops, and indeed to employers of labour generally, asking their co-operation in inducing their *employés* to submit to the operation of revaccination. He has also circulated a leaflet giving in plain language a short description of small pox so as to assist in its detection and thus to secure the calling in of medical aid and the early and prompt removal of infected persons to hospital. Attention is also directed in the leaflet to the provisions of the law against exposure of infected persons and things and against the conveyance of small pox patients in cabs, trams, railway trunks and other public conveyances.

January 3rd.

LIVERPOOL

(FROM OUR OWN CORRESPONDENT)

Christmas and New Year Tragedies

THE Assizes were only completed on Christmas Eve and it is lamentable to have to record two deaths from homicidal violence, one on Christmas Day, the other on New Year's Day. In the first case the victim was a woman and her husband has been committed for trial on a charge of wilful murder. In the second case the victim is a young man and at the inquest held to day the jury returned a verdict of wilful murder against a young woman who was seen to stab him.

Execution at H M Prison, Walton

Cross Duckworth, who was tried at the recent Assizes for the wilful murder of a little girl aged nine, was executed on the 3rd inst at Her Majesty's Prison, Walton. The deceased was found dead with a handkerchief stuffed in her mouth, and this had been done with such violence as to tear the soft palate from its attachments. The prisoner was found guilty by a complete chain of circumstantial evidence, and though the jury recommended him to mercy the surroundings of the case were such as fully to justify the Home Secretary declining to interfere with the sentence of death. It is to be hoped that the prisoner's fate will act as a warning and deter other men from committing or even attempting a crime which has been terribly frequent of late—the violation of young females.

Jan. 4th, 1893

NORTHERN COUNTIES NOTES

(FROM OUR OWN CORRESPONDENT)

Durham

MR F PAWSON, a noted football player, died at the County Hospital at Durham this week. Mr Pawson unfortunately met with an accident during play by colliding with another player, in consequence of which he was removed to the hospital on Oct. 1st last. His spine was injured and paralysis ensued, so that only the faintest hopes were entertained from the first of his recovery.

Small-pox in the North

From the prevalence of cases of small pox up and down the county our sanitary authorities are on the alert, and hospital questions and vaccination are now prominent. Cases are reported at Newcastle and Durham city and county. As a rule they are introduced and propagated by tramps and vagrants as before noticed, but so far nothing like an epidemic form of the disease has been noticed in the north. A case of small pox having been found in the casual wards of the Sunderland workhouse, and the day afterwards another case being observed, the guardians promptly met and decided

The population of France in 1891 was 38,343,192. The collation of the marriage rate since 1884 is interesting

1884	289 555 marriages
1885	283,170 "
1886	283,208 "
1887	277,060 "
1888	276,848 "
1889	272,934 "
1890	269 332 "
1891	285,458 "

The fluctuations in the divorce figures since 1884 when M. Naget reintroduced that institution, are as follows

1884	66 per 100,000 households
1885	57 " "
1886	40 " "
1887	50 " "
1888	60 " "
1889	61 " "
1890	73 " "
1891	77 " "

Of the 656,347 children born in 1891, 443,227 were boys and 213,120 girls while 792,441 were legitimate and 73,936 illegitimate, these latter constituting 8.5 per cent. of the entire births. Of the 876,832 deaths 453,085 were male and 423,797 female. As in 1890, the death rate for 1891 was high the parts of France which were most tried in this respect having been the south-east and the west. In fifty-three departments the excess of deaths over births has entailed a total loss of 62,533, an inverse process having given to the remainder (24) a gain of 52,028. For the whole of the country there were for 1000 deaths 939 births. Of the 13,958 foreigners who married during 1891, 347 were of English nationality. The births comprised 26,475 foreigners, including 363 English. The death list included 17,626 foreigners 478 of them being British.

January 4th.

BERLIN

(FROM OUR OWN CORRESPONDENT)

Cholera in Hamburg

So far as I can judge from the reports in the newspapers the number of cholera cases in Hamburg last week was seven, the number of deaths from cholera two.

Pathologico-Anatomical Plates

Professor Kast (now in Breslau, formerly head of the Hamburg Infirmary) and Dr Theodor Rumpel have published pathologico-anatomical plates taken from fresh preparations with explanatory text. They have been assisted by an artist named Gummelt. The plates are very cheap, and are said to be excellent.

Medicine in the Middle Ages

Dr Julius Pagel private lecturer on the history of medicine in Berlin University has induced Dr Otto Paderstein to edit a part of the *Revocatum Memoriz* of Johannes de Sancto Amando a Belgian physician of repute who flourished in the thirteenth century. It is a manual of pathology and therapeutics which was much used by medical students six centuries ago and affords a valuable insight into the state of the science and art of medicine at that time. Dr Paderstein's edition, which is the first, is based on four manuscripts.

A Practitioner Sentenced for Fraud

A Leipzig practitioner, Dr von Tischendorf a man of good reputation, with an income of about £500 a year, was sentenced to eight months imprisonment on Christmas Eve for fraud. He had a private dispensary and received from each patient belonging to the sick fund of the place only 1 mark and 25 pfennigs (1s 3d) a day for board, lodging and medical attendance. In order to eke out this miserable pittance, he reckoned more than the actual number of days in his accounts. In ten accounts which were laid before the court thirty-two of the ninety-nine entries were proved to be false. The court took the good reputation of the accused and the inadequacy of his pay as doctor to the sick fund into account as extenuating circumstances.

Miscellaneous Items

Owing to the death of Professor Wilhelm Braune, Dr Fick of Würzburg has been invited to teach anatomy in

Leipzig University, with the title of Extraordinary Professor. Professor Werner Spalteholz has been appointed curator of the anatomical museum there.—Wilhelm Marmé, Professor of Pharmacology at Göttingen, has received the title of Privy Medical Counsellor.—The "Society for the Investigation of Nature" is celebrating the hundred and fiftieth anniversary of its foundation to-day at Dantzig. A history of the Society has been prepared for the occasion.—A committee has been formed for the purpose of commemorating, by the erection of a bust, the twenty years services of Surgeon General Mehlhausen as medical director of the *Charité*.—The medical faculty of Berlin University has forwarded to M. Pasteur a letter of congratulation in Latin on the occasion of his seventieth birthday.

Berlin, Jan. 2nd.

NEW ZEALAND

(FROM OUR OWN CORRESPONDENT)

The Sanitary Condition of Wellington

A LETTER appeared in THE LANCET of Sept. 24th last signed by Dr Chapple of Wellington, in which that gentleman refers to my article on the above heading as "painfully unjust, as my report most clearly proved." Unfortunately Dr Chapple does not give his reasons for characterising my remarks in this manner, nor, indeed, do I think it possible for him to do so since the article in question is in the main a *resume* of his own sanitary report. If any "scathing criticism" makes its appearance it has emanated from Dr Chapple himself. When the report on the sanitary condition of the city first appeared the universal opinion expressed was that at last a man had been found who struck out straight from the shoulder in such a manner as to show very clearly the absolute necessity for immediate sanitary reform. Dr Chapple's report, I maintain once more, most clearly demonstrated that the condition of the city at the time of writing was such as reflected disgrace on the authorities. It has astonished me not a little, too, to find Dr Chapple making the assertion that "previously to 1890 there was comparatively little typhoid fever existing." I reiterate once more that dirt, disease and death have given this city an unenviable notoriety among the cities of the colony for years past. If Dr Chapple will look up the Registrar General's reports for, say, the past ten years he will find that typhoid fever has claimed many victims yearly (I have recently forwarded you the statistics) and that the death-rate from this disease was on the increase at the moment that his report appeared. As a matter of fact, Wellington has been the 'home' of typhoid fever in this colony for at any rate, the past fifteen years. Numerous instances could, if necessary, be cited where cases of typhoid fever occurring in other parts of New Zealand have been actually traced to a Wellington infection. Another point I wish to refer to in the letter and I have done. Dr Chapple accuses me of attacking the sanitation of the whole city. In this respect, too his letter is not correct. He has evidently not read my article with any care or he would have come upon the following sentence:—
"The yearly outbreaks of fever have been confined to a small area in the Te Aro end of the city." As a matter of fact an acknowledged area of about 100 acres teeming with faecal accumulation (according to the recent report) in the centre of a city cannot conduce to a 'comparative immunity from all forms of zymotic disease.' In conclusion I heartily congratulate the ratepayers of Wellington on their recent determination to purify the city from all infectious diseases and no one wishes them more thorough success than your own correspondent.

Nov 29th, 1892.

BOMBAY UNIVERSITY AND THE M.B. DEGREE.

Another effort is being made by the Senate of the Bombay University to put their medical degrees on a new basis. With this object in view it has been proposed to change the degree of L.M. and S. to M.B. the Arts examination being substituted for that of Matriculation. Another suggestion is that the 'intermediate' in Arts or the final B.Sc. be the preliminary test, and that the L.M. and S. degree remain until an equivalent diploma is granted by some licensing body. Other suggestions have been made and there is a general feeling that some change is necessary. At present the discussion on the matter by the Senate stands adjourned.

IRELAND

(FROM OUR OWN CORRESPONDENTS.)

Small-pox Prosecution for Exposure

ON Saturday last, in the South Police Court, a man was prosecuted under the 142nd Section of the Public Health Act for having exposed himself in a public vehicle while suffering from small pox. The prosecution was instituted by the Corporation on the recommendation of the Local Government Board. From the evidence given it appeared that the defendant contracted the disease in Liverpool and came to Blackrock, near Dublin, on Nov 18th, 1892, where he was seen by the dispensary medical officer, who recommended him to go to Loughlinstown Union, but he refused and said he would go to Dublin. He was duly warned to take all necessary precautions, but nevertheless travelled from Blackrock by an ordinary train to Dublin. He walked through the streets of Dublin and on Nov 24th was admitted into Cork street Fever Hospital. The defendant said that he did not at the time think he was suffering from the disease, he did not feel unwell and he thought he had merely a rash of some kind. The magistrate pointed out the danger of travelling while affected with a disease of the kind and inflicted a fine of £3, which subsequently was reduced to £2, as the defendant's clothes had all been burned.

The Belfast Hospital for Sick Children

Two vacancies have occurred in the staff of this hospital by the retirement of Mr John Fagan, who was one of its two original founders and has been surgeon at this institution since 1873, and by the resignation of Dr Campbell, who for the past two years has been assistant surgeon. A number of candidates are in the field for the two appointments, the posts being highly valued as affording exceptional opportunities for studying the diseases of infancy and childhood.

Medical School Dinner

I understand that arrangements are now being completed for having a dinner in connexion with the Belfast School of Medicine on Thursday, Jan 26th. It is expected that all the teachers and a large number of the old pupils will be present.

The Union Infirmary

At the usual weekly meeting of the Belfast Board of Guardians held on Jan. 3rd it was decided to grant Dr Seaton Reid a retiring allowance of £100 and Dr Bryce Smith £50 per annum. In reference to the admission of students, a resolution was carried requesting the Local Government Board to give effect to the resolutions adopted on Dec 13th admitting medical students to clinical lectures.

Progress of Belfast

During the past year (1892) although for a lengthened period there was a strike in the building trade, 2112 new buildings were erected and there has been an increase in valuation of £24,013. During the past thirty-one years there were 41,371 new buildings erected in Belfast and in the same time an increase in valuation is noted of £461,428. Belfast is still growing with leaps and bounds, and in no city in the United Kingdom is work more plentiful.

January 4th

PARIS.

(FROM OUR OWN CORRESPONDENT.)

French Bacteriologists in New South Wales

SOME years ago Madame Pommery, whose name is so familiar to epicures, began to utilise some waste land over her champagne cellars for the breeding of rabbits destined to serve as food for the powder expended by her guests during the shooting season. Madame Pommery was evidently unacquainted with the rabbit scourge that has proved so detrimental to agricultural operations in Australia or she would never have made such a hazardous experiment. Finding that the rodents above ground were fast becoming more numerous than the bottles in the cellars beneath and that their burrowing threatened the stability of the said cellars, she consulted M Pasteur. That magician, by sowing chicken-cholera

broadcast amongst the obnoxious animals, succeeded in killing them all in a fortnight. Fortified by this brilliant result M Pasteur, it will be remembered, despatched to Australia a commission headed by his relative, M Loir, with the object of repeating the massacre on a large scale in our progressive but rabbit-ridden colony. It appears, however, that the Colonial Government had hitherto been paying so much a head for every rabbit killed and certain individuals who gained their livelihood in this way naturally objected to the putting into practice of the more expeditious Pasteurian method. The wire netting industry was also well to the fore in the outcry raised against the Gallic Commission and the bugbear, chicken cholera, was advanced in order to frighten poultry breeders. The Government was powerless against this artfully contrived agitation and the justly offended *arants* had to content themselves with a sop—viz., the founding by the authority of a Pasteur Institute at Sydney wherein they could, on the condition that they left the playful “bunny” strictly alone, undertake bacteriological researches that might benefit the colony in other but unrodent directions. That the labours of this enlightened band of scientists have not been unfruitful since their installation at the Sydney Institute is apparent from a report issued by the director, M Loir, which appears in the November number of the *Archives de Medecine Experimentale*. The subjects studied were *charbon* (anthrax) and the pleuro pneumonia of cattle. Subcutaneous inoculation of charbon virus proved fatal to the kangaroo rat, the Australian cat (a carnivorous marsupial), the kangaroo and the Australian bear (kaola). Introduced into the system through the stomach the virus killed the kangaroo rat, but failed to do so in the case of the Australian cat, appearing to have, on the contrary, conferred on that animal immunity against subsequent inoculations. Enormous sums are lost annually in Australia through the ravages of bovine pleuro-pneumonia. The insufficiency of railway communication explains the spread of the disease amongst cattle, most of the roads being probably infected to a large extent. A method of inoculation against this disease is known and extensively practised. This consists in inoculating the active virus into the animal's tail. Local oedema is produced and sometimes gangrene, but ordinarily the beast recovers and acquires immunity against the dread disease. Unfortunately, the virus keeps badly, and inoculations are only practised when an epidemic breaks out in a herd. By this time the disease has spread and inoculation comes too late. M. Loir and Germont were requested by the Queensland Government to prepare on a large scale cultures of the virus which could be supplied to cattle raisers. This they have succeeded in doing by a proceeding due to M Pasteur. The virus is inoculated into the shoulder or the dewlap of the calf. Considerable oedema ensues and puncture of the sac gives issue to as much as two litres of serum. M Loir has discovered that in order to collect the liquid at the acme of its virulence it must be taken when the calf has a temperature of 41° or 42° C. He has also proved that the liquid is as active as the natural virus taken from the lung of an animal affected with idiopathic pleuro pneumonia. There is unfortunately a limit to the time during which the lymph can be kept, the activity, when preserved in sterilised tubes, disappearing in twenty days. Attempts to isolate the microbe of this disease have hitherto failed. The above discovery is nevertheless a most important one, the immunity conferred by the inoculation having proved very perfect. The following experiment confirms this statement. 2000 cattle are inoculated with the virus derived by the above described (Pasteur's) method from a calf. The herd is despatched on a journey of 2000 kilometres, the addition being made to their number at the start of 19 un inoculated animals. The journey accomplished, it was found that not one of the inoculated beasts had contracted pleuro pneumonia, whereas of the 19 unprotected ones 8 had succumbed to it.

Statistics relating to the Population of France for 1891

The report of M Lax, director of the Office du Travail, has just been sent to the Minister of Commerce. From this report it appears that there were registered during 1891 in the whole of France 285,458 marriages, 5752 divorces, 866,377 births and 876,882 deaths. Compared with the figures of 1890 I find an increase of 18 126 marriages, 295 divorces, 28,318 births and 377 deaths—that is to say, while the number of deaths has remained virtually constant, the marriages have increased 6 per cent. and the births 3.37 per cent. It will be noticed that the deaths exceeded the births by 10,505. The general rate of mortality was 22.6 per 1000.

INSPECTOR GENERAL OF HOSPITALS JOHN ROBERT TAYLOR, C.B., F.R.C.S

THE death of this officer at Cheltenham on Dec. 23rd last at the age of eighty three calls for more than a passing notice at our hands, for the late Inspector General Taylor had in his time a long and very distinguished career in the Army Medical Service. He retired in 1863, and this, together with his death at an advanced age, would naturally tend to weaken the recollection of services performed so long ago, and yet there are few men who can show such a record of good and active service as the late Inspector General Taylor possessed. He was the son of an army surgeon who died in the service at Gibraltar in 1812. He commenced his military career in the reign of William IV as assistant-surgeon, 58th Regiment. In 1838 he went to Canada, where he had charge of the wounded after the fight at Point-au Pelée. Up to 1839 he served at Chambly with the 1st Dragoon Guards and the 15th Regiment engaged in the Canadian Rebellion. In 1842 he joined the 29th Regiment in India as surgeon, and he served with it in the Sutlej campaign, 1845-46, including the actions of Ferozeshah and Sobraon, where the losses of the regiment were extremely heavy, being nearly one in four of the officers and men engaged. In 1848 he exchanged into the 80th Regiment, and served with it in the campaign in Burmah, including the affairs of Martaban, Rangoon, and the captures of the Great Dagon Pagoda and of Prome. In 1854 he was gazetted first-class staff surgeon and appointed principal medical officer at Chatham. In March 1855, he was ordered to the Crimea where he joined the third division of the army under Lord Raglan. He was present with his division in the assault of June 18th and in the taking of Sebastopol on Sept. 8th. He was gazetted deputy inspector general in 1855. It was in this war that he introduced his scheme of systematic classification and tabulation of gunshot wounds occurring in the field, which he had initiated in the Sutlej Campaign and completed during the Crimean War, in a form since adopted in all army returns. In 1856 he was made a Companion of the Bath, in 1858 he was gazetted inspector general, and on his return to England he was, in 1859, appointed one of Her Majesty's honorary surgeons. He was principal medical officer at Fort Pitt, Chatham, until 1861, when he proceeded in the same capacity to the Cape, being also commissioned to inquire and report upon a scheme which the Government had in view for establishing a sanatorium there. His report was adverse to the scheme. In 1862 he returned to England and was appointed principal medical officer at Aldershot, where he remained until his retirement in 1863. He was awarded a good service pension from the grant for distinguished and meritorious services.

SURGEON COLONEL C H Y GODWIN

THIS officer—the telegraphic news of whose death we briefly recorded last week—entered the Army Medical Service as an assistant-surgeon in October, 1860, became surgeon in March 1873, surgeon major in May, 1875, brigade-surgeon lieutenant colonel in October, 1886, and surgeon colonel in March, 1892. At the time of his death, which took place at Rawal Pindi on Dec. 23rd last, at the age of fifty four, he was the principal medical officer of the Rawal Pindi Division. The deceased officer after serving for a long time in India, became surgeon to the Royal Arsenal, Woolwich, and went on active service to Egypt, where he did excellent work in organising and managing the hospital at Suez and in treating the sick and wounded sent there. Although specially selected for that post on account of his surgical skill and knowledge, his service there was not a remunerative one and he more over, suffered greatly in health from the effects of fever and climatic disease. He subsequently went to Netley as Assistant-Professor of Military Surgery, and on the retirement of Sir Thomas Longmore, C.B., he was appointed his successor, but resigned the professorship in consequence of the financial loss which the holding of it entailed and went to India where he had only arrived a few months before he died of dysentery, leaving a widow and children to mourn their loss. The Army Medical School at Netley is the institution through which all officers of the British and Indian Medical Services have to pass, and the best men are supposed to be selected to fill the posts in its teaching staff. It seems therefore, neither just nor expedient that medical officers specially selected for these appointments should not be well paid and that the

emoluments attaching to them should not be sufficient to tempt the best men to seek for them and to try, by the character of their work, to retain them, and yet such does not appear to have been the case in the present instance, for Surgeon Colonel Godwin, as we have seen, retired from the professorship of Military Surgery soon after his appointment thereto. The late officer was an excellent surgeon and quite *au courant* with the most recent scientific advances in surgery. He edited the latest edition of Porter's well known handbook, and by his revisions and additions to that work did all that was possible to maintain its character as an excellent practical handbook for the military surgeon. He was always ready to take part in any surgical work or scientific investigation, and his loss will be greatly felt in the service to which he belonged and of which he was so worthy a member.

Medical News.

UNIVERSITY OF LONDON.—The following candidates have passed the recent B.S. (Honours) Examination—

First Class.—Edward Percy Paton, M.D. (Scholarship and Gold Medal), St. Bartholomew's Hospital; Hamilton A. Ballance (Gold Medal), University College; Henry Stephen Sandifer, King's College; Chas. Satchell Pantin, E. Thos. E. Hamilton, B.Sc., and Tom Robinson Taylor, B.Sc., Guy's Hospital.
Second Class.—John Lacy Firth, M.D., University College; Leonard Rogers, St. Mary's Hospital; Wm. Black Jones, St. Bartholomew's Hospital; Chas. Henry Preston, Owens College; Manchester Royal Infirmary and London Hospital; Thomas David Lister, Guy's Hospital.
Third Class.—Francis Jordan Coleman, Alfred Wm. Sheen and John Wm. Frank Jewell, Guy's Hospital; Charles Edwin Wheeler, St. Bartholomew's Hospital.

* Worthy of Medal.

FOOTBALL CASUALTIES.—A young man, whilst playing last week in a match on the Goddard street Ground, Crewe, fractured his clavicle. During a match in the same week, at Glossop, between North End and Stocksbridge, a member of the latter team sustained a compound fracture of the leg and was admitted to Wood's Hospital. A young man of Jarrow, who was injured in the spine while playing in October last in a match between Durham City and Westoe and was removed to the Durham County Hospital, died there on the 2nd inst. The injury received brought on paralysis.

THE SOCIETY OF PUBLIC ANALYSTS.—On Wednesday the annual dinner of this society was held at the Criterion Restaurant, Sir Charles Cameron, M.D., being in the chair. The company included a large number of gentlemen engaged in analytical science. The President, in proposing "Success to the Society of Public Analysts," remarked that the past president, in vacating his seat, was leaving the Society in a greatly increased state of efficiency. Mr. Otto Hehner, in responding to the toast, testified to the improved condition of analytical science, to the value of the work achieved by the Society and to the necessity of enhanced vigilance on the part of those engaged in counteracting the designs of fraudulent dealers in food and drugs.

BEQUESTS AND DONATIONS TO HOSPITALS.—The Fishmongers' Livery Company and the Salters' Livery Company have granted twenty five guineas and ten guineas to the Royal Westminster Ophthalmic Hospital respectively.—The secretary of the Children's Hospital Sunday School Fund, Birmingham, has handed over £281 17s. 10d. to the committee of the Children's Hospital, Birmingham, being the proceeds of the thirteenth annual collections made in the various Sunday schools of that city and neighbourhood.—The treasurer of the Queen's Hospital, Birmingham, has received £75 from the Birmingham Charity Sports 1892.—The ball in aid of the St. John's Convalescent Home for Children, Brighton, which took place on Nov. 30th last, resulted in the sum of £109 17s. being handed over to that charity.—The executor of the late Mrs. E. Hohn has forwarded a cheque for £100 to the Hospital for Epilepsy, Regent's park.—The late Mr. Thomas Wm. Christie, M.R.C.S., Liverpool bequeathed £100 to the Castlebar Infirmary, Mayo.—Mr. Wm. Robert Barker, late of New Bond street, London bequeathed £100 to the Cheltenham Hospital.—Mr. Laurence Morrissey has left £200 each to Jervis street, Mater Misericordiae and St. Vincent's Hospitals and £100 to the Hospital for Incurables, Dublin.

Obituary.

THOMAS HAWKSLEY, M D LOND, M R C P LOND

IN taking a retrospect of the career of those members of our profession who have attained to success and eminence in their respective spheres of action it will be found that in some instances certain favourable advantages have existed in connexion with the individual, such as blood relationship, with one who has held an exalted and influential position in the profession, or with someone who is prominent in the social scale and is able to materially advance the career of the aspirant to fame, and when these advantages have existed and their possessor is gifted with sound knowledge, energy, judgment and good health success comes rapidly. There are others, however, who have not been favoured by any of the advantages which so much assist a man in his professional career and yet owing to their own energy and perseverance have met with great success and led most useful lives. To this category the late Dr Hawksley belonged, and, moreover, he laboured under the disadvantage of feeble health, and in consequence of disease in one of his lower limbs was rendered lame for the greater portion of his life, but his physical weakness was compensated for in a great measure by marked mental activity and determination of character. Born in 1820, Dr Hawksley at the finish of his general education determined to follow the profession of medicine, and prior to entering upon the usual curriculum at one of the public schools he acted as assistant to Mr Fincham of Spring-gardens, a practitioner of the old school, who attended a considerable number of people of all classes in the neighbourhood and in Westminster. Here Dr Hawksley had a good opportunity of seeing the drudgery incidental to the duties of the general practitioner fifty years ago and was a careful witness of the routine treatment which was carried on in those days even by highly educated men, for at that time the use of the lancet was much in vogue and inflammatory disorders, such as pneumonia and peritonitis, were treated by the most violent remedies, such agents as mercury and antimony being used in frequent and excessive doses. In fact, in those days symptoms only were combated and little heed was given to the causes which produced the morbid phenomena in question. During this time Dr Hawksley paid much attention to the study of *materna medica*, always a favourite subject with him. Among other good advice which he gave to a junior pupil just entered upon professional study, he recommended him to write out the whole of Phillips' Pharmacopoeia, which was at that time the standard work. He entered at the school of King's College in 1840, residing in the house of a practitioner in the neighbourhood. This was at a period when a student could qualify himself in about two, or at least three years and Dr Hawksley was not long in doing this. He made the best use of the opportunities afforded him by the distinguished teachers who were then raising the reputation of the school and was noted for his energy and intelligence, gaining a high position amongst his fellow pupils, and in a very short time obtaining his qualification. He married and took a small house in Margaret-street, Cavendish square, and there commenced the practice of his profession. After residing there for some years he took the degrees of M B and M D of the London University, and in 1854 obtained the Membership of the College of Physicians. His favourite study being in that direction, he attached himself as physician to the Infirmary for Diseases of the Chest in Margaret-street. He subsequently removed to George-street, Hanover square, where he resided for several years, but later changed his abode to Brook street. At this period of his life he was not only engaged in an extensive practice, but was devoting himself to sanitary science and matters of philanthropy, he took a leading part in the establishment of charitable societies and employed his pen on the subjects of pauperism, the charities of London, the culture of the children of the people and the sewerage of London. Besides these, he wrote papers on various medical subjects and warmly advocated the use of the earth closet. For some time he resided at Brighton coming up to town frequently to attend his patients, and ultimately he purchased some property at Chertsey before withdrawing from the practice of his profession. At this latter place he developed a scheme which he had long revolved in his mind

on the property he purchased he erected a building which was formed into a School of Handicraft for Destitute Boys, who were rigorously trained to useful mechanical arts and were thus saved from poverty and crime and sent out into the world as redeemed and useful members of society. In this noble work Dr Hawksley spent the energies of his philanthropic mind during the last few years and was enabled to see it crowned with success. It is computed that he devoted as much as £30,000 to this object alone.

Always more or less feeble in frame, Dr Hawksley had during the latter years of his life suffered much in various ways. Some ten years since he underwent two operations for stone in the bladder and subsequently during his life had much vesical trouble, but to the astonishment of those who had known him long he reached the age of upwards of seventy and was cut off by an attack of obstruction of the bowels, for which colotomy was performed. Dr Hawksley's success was due entirely to his own perseverance. Without any brilliant qualities, he was a conscientious and diligent cultivator of his profession, he was a shrewd observer, and not only did he take a deal of trouble in investigating the diseases of those he attended, but he had the fortunate gift of impressing his patients with the fact and consequently he gained their entire confidence. It is not often that men in our profession have such opportunities of practically showing the results of that philanthropic spirit which animated the subject of this memoir. His useful life will prove a great example to those who may be placed in similar positions of being able to benefit their fellow creatures.

JAMES R D P BRIGHT, M D, M R C P

THE subject of the present notice, who died on Dec 18th at the very advanced age of eighty eight years, was some forty years ago a well known and a much respected physician at the West end of London, having successfully carried on a practice at Cambridge square for a period of about twenty years. Dr Bright was the youngest son of Captain Bright, R M L I, and was born at Stonehouse, Devonshire, on March 4th, 1804. When about six years old the Woolwich division of Marines was formed, and Captain Bright being appointed barrack master, the family removed to Woolwich. Dr Bright, with his two brothers, was educated at Blundell's School, Tiverton, which in those early days had so high a reputation that their father considered the advantages obtained outweighed the difficulty presented in accomplishing so considerable a distance in the then coaching days, and many a good story could he relate of the adventures of his early schoolboy days, when he was contemporary with the celebrated "Jack Russell" and many other Devonshire worthies. On leaving school, having a desire to enter the medical profession, he was placed with Mr Bannett of Fulham, who was at that time in an extensive practice. After completing his curriculum at Guy's and St Thomas's Hospitals in the days of their amalgamation and obtaining the M R C S and L S A. qualifications, he was for a short period in the United East India Company's service and took three voyages to Calcutta, the last in the *Cesar*, when he was in medical charge of a large number of troops. After his return from this voyage he settled in active practice in Brighton, where he was in partnership with the late Mr Philpott, brother to the then Bishop of Worcester. In the year 1834 Dr Bright removed to Wimbledon where he had a very large practice and where he remained until 1844 when he settled in the West-end of London, having in the meantime taken the degree of M D Aberdeen in 1840. While in London Dr Bright was for some years hon secretary to the Medical Benevolent Fund and also hon physician to the Institution for Governesses in Harley street, many of whom found in him a most kind friend as well as a skilful medical adviser. Dr Bright was admitted M R C P in 1859, he was also a Fellow of the Royal Geographical and the Geological Societies, in whose proceedings he took much interest. He wrote a work "On the Heart and Lungs," which he dedicated to his old friend and patient, Lord Cottenham, then Lord Chancellor and which went through several editions. Dr Bright left London in 1863, when he retired from practice and settled in Cheltenham, where he remained till 1878, and in 1882 he removed to Plymouth, where he died, much mourned and respected, on Dec. 18th, 1892. Dr Bright married a daughter of the late Mr John Hatchard by whom he had ten children, six surviving, the second of whom, Mr J A Bright is a member of the medical profession.

CORPORATION OF NORWICH.—Medical Officer of Health. Salary £400 per annum.

DERBYSHIRE ROYAL INFIRMARY.—Resident Assistant House Surgeon, for six months. Salary £10. Apartments, board and washing provided.

EARLSWOOD ASYLUM FOR IDIOTS. Redhill, Surrey.—Qualified Practitioner. Salary £400 with furnished apartments in the building together with coal and gas.

EAST LONDON HOSPITAL FOR CHILDREN. Glamis-road, Shadwell E.—House Surgeon. Board and lodging provided.

GENERAL INFIRMARY AND DISPENSARY, DONCASTER.—In-door Dispenser and Assistant to House Surgeon. Board, lodging and washing provided.

GUEST HOSPITAL, DUDLEY.—Resident Medical Officer. Salary £100 per annum, with board, residence attendance and washing.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, BROMPTON. House Physicians.

METROPOLITAN ASYLUM BOARD.—Medical Superintendent at the Darent Schools for Imbeciles, near Dartford, Kent. Salary £450 per annum, with furnished residence, coal, gas, milk, garden produce and washing. (Applications to the Clerk of the Board, Chief Offices, No. 10, Fenchurch Street, Strand, W.C.)

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, GREENWICH ROAD, S.E.—Senior Resident Medical Officer. Salary £60 per annum, with apartments, board and washing.

TAUNTON AND SOMERSET HOSPITAL, TAUNTON.—Assistant House Surgeon, for six months. Board, washing and lodging in the Hospital provided.

VICTORIA HOSPITAL FOR SICK CHILDREN, QUEEN'S ROAD, CHELSEA, S.W.—House Physician to the Inpatients. Honorarium of £50 per annum, and board and lodging provided in the hospital.

VICTORIA HOSPITAL FOR SICK CHILDREN, QUEEN'S ROAD, CHELSEA, S.W.—House Surgeon to the Inpatients. Honorarium of £50 per annum, and board and lodging provided in the hospital.

VICTORIA HOSPITAL, FOLKESTONE.—House Surgeon. Salary £50 the first year with an increase of £10 each year for the two following years, together with board and residence.

WEST HERTS INFIRMARY, HEMEL HEMPSTEAD.—House Surgeon and Dispenser who shall also be Assistant Secretary for two years. Salary £100 per annum, with board, furnished rooms, free light, attendance and washing.

WEST RIDING ASYLUM, WAKEFIELD.—Fourth Assistant Medical Officer. Salary £100 per annum, rising £10 annually to a maximum of £150 with furnished apartments, board, washing and attendance.

Medical Diary for the ensuing Week.

Monday, January 9.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M., Fridays and Saturdays, at the same hour.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M. and on Tuesday, Wednesday, Friday and Saturday at the same hour.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, daily at 10 A.M.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.

CHELSEA HOSPITAL FOR WOMEN.—Operations 2 P.M. Thursday 2.

HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M. and on Thursday at the same hour.

METROPOLITAN FREE HOSPITAL.—Operations 2 P.M.

ROYAL ORTHOPEDIC HOSPITAL.—Operations 2 P.M.

CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.

UNIVERSITY COLLEGE HOSPITAL.—Ear and Throat Department, 9 A.M., Thursday 9 A.M. Eye Department, 2 P.M.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn Road).—5 P.M. Mr. Lencox Browne. Diseases of the Nares, Pharynx and Larynx.—Mr. Wyatt Wingrave. Demonstration of the Commoner Micro-organisms occurring in the Nose, Throat and Ear with their accompanying Tissue Changes (Lantern and Micro Slides). (Post-Graduate Course.)

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (40, Leicester-sq. W.C.).—8 P.M. Annual General Meeting. Casual Communications.—Mr. Ackey. A peculiar case of Bone in Dentine.—Mr. D. Hepburn. Osses Union of Molar Teeth. Paper.—Dr. E. W. Roughton. Micro-organisms of the Mouth (with lantern demonstration). The President will deliver his Valedictory Address.

MEDICAL SOCIETY OF LONDON.—8.30 P.M. Dr. J. S. Bristowe. Syphilitic Affections of the Nervous System. (First Lettsomian Lecture.)

Tuesday, January 10.

GUY'S HOSPITAL.—Operations 1.30 P.M. and on Friday at the same hour.

Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.

ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M., Friday, 2 P.M.

ST. MARK'S HOSPITAL.—Operations, 2 P.M.

CANCER HOSPITAL, BROMPTON.—Operations 2 P.M., Saturday, 2 P.M.

WESTMINSTER HOSPITAL.—Operations, 2 P.M.

WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Skin Department, 1.45 Saturday 9.15.

ST. MARK'S HOSPITAL.—Operations, 1.30 P.M. Consultations Monday 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays 1.30 P.M. Electro-therapeutics, same day 2 P.M.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—Dr. A. Haig. The effects of the Iodides on Arterial Tension and the Excretion of Urates.—Mr. D. Argy Power. Cases to illustrate the Relationship which exists between Wryneck and Congenital Hematoma of the Sternomastoid Muscle.

Wednesday, January 11.

NATIONAL ORTHOPEDIC HOSPITAL.—Operations, 10 A.M.

MIDDLESEX HOSPITAL.—Operations, 1.30 P.M., Saturdays, 2 P.M. Obstetrical Operations, Thursdays 2 P.M.

CHARING CROSS HOSPITAL.—Operations, 8 P.M., and on Thursday and Friday at the same hour.

ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M. Saturday same hour.

LONDON HOSPITAL.—Operations 2 P.M., Thursday and Saturday, same hour.

ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations 2 P.M.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.

GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 1.30 P.M. Dental Department, 8.30 A.M. Eye Department 2 P.M.

ROYAL FREE HOSPITAL.—Operations, 2 P.M. and on Saturday.

CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.

HUNTERIAN SOCIETY (London Institution).—8.30 P.M. Mr. H. W. Denton-Cardew. Electricity in Every-day Practice (with demonstration).

Thursday, January 12.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday 1.30 P.M. Ophthalmic Operations, Friday 1.30 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M. Ear and Throat Department, 9 A.M. Eye Department, 2 P.M.

NORTH LONDON MEDICAL AND CHIRURGICAL SOCIETY.—Dr. E. Clifford Beale. Two cases of Myxodema treated by Thyroid Extract.—Dr. G. O'Reilly. (1) Case of Lumbar Abscess opened when 70 oz. of pus were evacuated, cure. (2) Case of Perityphilitis with peritonitis, absorption cure.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn Road).—5 P.M. Dr. Dundas Grant. Diseases of the External Meatus (concluded).

Friday, January 13.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Eye Department, 2 P.M.

CLINICAL SOCIETY OF LONDON.—Dr. de Havilland Hall. A case of Rhinolith.—Sir Dyce Duckworth. A case of Inherited Gout with production of Tophi at an early age.—Mr. Davies Pryce (Introduced by the president). On Uratic Deposits in the Conjunctival Membrane.—Dr. Penrose and Dr. Lee Dickinson. Cases of Abscess beneath the Diaphragm in connection with Perforating Gastric Ulcer.

Saturday, January 14.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and Skin Department 9.15 A.M.

Births, Marriages and Deaths.

BIRTHS.

COVENTON.—On Jan. 1st, 1893, at Indore. Perensy road, St. Leonards-on-Sea, the wife of Chas. A. Coventon, L.R.C.P. Lond., M.R.C.S. Eng. of a daughter (Ruby Helen).

FAWSETT.—On Jan. 3rd, 1893, at High street, Lewes, Sussex, the wife of Frank Fawcett, M.B., B.S. Lond., of a daughter.

FENN.—On Dec. 30th, 1892, at Richmond, Surrey, the wife of Edward L. Fenn, M.D., M.R.C.P. of Grey Friars, Colchester, of a daughter.

SIEVEKING.—On Dec. 31st, 1892, at Gwydir House, Cambridge, the wife of Alfred Robert Sieveking of a daughter.

MARRIAGES.

HAUSEMAN-WARD.—On Wednesday Dec. 28th, 1892, at Holy Trinity Church, Twickenham, by the Rev. David Anderson, Rector of St. George's, Hanover square, assisted by the Rev. P. B. Drabble, Vicar of Holy Trinity, Twickenham, Dr. James Gilpin, Hausman of the Manor House, Houghton-le-Spring, Durham, to Jane Isabel, eldest daughter of Martindale Cowdale Ward, M.D. of Salisbury, Twickenham-common, and granddaughter of the late Matthew Jameson, of Thirsk, Yorkshire.

JOHNSON-KING.—On Dec. 20th, 1892, at St. Matthew's, Bayswater, by the Rev. W. E. Emmet, M.A., Vicar of St. Mark's, Notting Hill, Raymond Johnson, M.B., F.R.C.S. of 20 Weymouth street, Portland place, W., eldest son of Raymond G. Johnson of 48, Ladbroke-road, W., to Mary Helen, eldest daughter of Robert King of 15, Lansdowne-road W.

TOPPING-WHITLOCK.—On Dec. 29th, 1892, at Great Yeldham Church, John Phillip Topping, M.B. C.M. of Forest-gate, Essex, to Emily second daughter of Walter Whitlock, Esq. of Poole House, Great Yeldham, Essex.

DEATHS.

BARSTOW.—At 8, Hoxton street, Gillingham, Bradford, on Dec. 20th, 1892, Arthur Henry Barstow, L.R.C.P.S. Ed., L.F.P.S. Glasg., aged 29.

CRANE.—On Dec. 10th, 1892, at 'The Wilderness,' Port of Spain, Trinidad, Lillie the wife of S. Leonard Crane, C.M.G. M.D., aged 47.

JACKSON.—On Dec. 24th, 1892, at Scarborough Villa, Leamington, Peter Alfred Jackson, late Surgeon 3rd Battalion Leicestershire Regiment, aged 71.

M'DONVILL.—At Park House, Park Lane, Stoke Newington, M.D. Edin., M.R.C.S. Eng. in 3rd year.

STAINS.—On Dec. 29th, 1892, at the Royal Infirmary, Liverpool, in the 63rd year of her age, Miss Emmeline Stains for over eleven years Lady Superintendent of the Royal Infirmary and of the Liverpool Training School and Home for Nurses, after twenty five years of invaluable nursing work.

WALLACE.—On Dec. 2nd, 1892, at Hotel des Palmiers, Nice, Brigade-Surgeon John Wallace, late of Devonport.

WHITMARSH.—On Dec. 25th, 1892, at Medina terrace, Brighton, William Michael Heavside Whitmarsh, M.D. aged 52.

N.B.—A fee of 1s. is charged for the insertion of Notices of Births, Marriages and Deaths.

THE MORLEY CONVALESCENT HOME—Arrangements are now being made for the formal opening of the new wing. The ceremony will, it is expected, take place towards the end of next month or the beginning of March.

SOCIETY FOR THE STUDY OF INEBRIETY—Four lectures on inebriety and medical jurisprudence will be delivered by Dr Norman Kerr at the Medical Society of London, Chandos street, on Jan 10th and successive Tuesday afternoons.

MEDICAL MAGISTRATES—Mr George Augustus Davies, L.R.C.P. Lond., M.R.C.S., of Newport, Monmouthshire, and Dr George H. Dabbs of Shanklin, Isle of Wight, have been placed on the Commission of the Peace for the borough of Newport and the county of Southampton respectively.

THE NEW PUBLIC HOSPITAL FOR FALMOUTH—The committee for this hospital have now in prospect a substantial sum for the building fund and a large amount in annual subscriptions, so that they are in a position to invite building plans for the proposed institution. Some difficulty, however, has arisen with regard to the site.

FOOT AND MOUTH DISEASE IN LONDON—Although cases of this disease have not been discovered in the Metropolitan Cattle Market, it is deemed advisable by the authorities connected with the Board of Agriculture that an immediate inquiry be made into the condition of cattle in all the London cowsheds. Also, as a measure of precaution, the market is to be thoroughly disinfected after business hours.

YELLOW FEVER AT CUBA—Advices from the English Consul at Santiago report the continued existence of somewhat serious mortality amongst the inhabitants of Cuba from yellow fever, although foreigners for the most part seem to escape the disease. A little time ago Dr Garcia of Santiago conducted some experiments on the effects produced by changes of temperature and humidity on patients affected with the disease. The results, though on the whole favourable, would appear to indicate the necessity of further inquiry, which Dr Garcia is still engaged in prosecuting.

THE CHOLERA REGULATIONS ACT—A case was heard in a London police court a few days ago in which a passenger was summoned for neglecting to carry out Sections 2 and 3 of the above Act, which required that information should be given of the address and destination of every passenger on an incoming vessel to the port medical officer of London. The matter is of importance, as the port sanitary authority have signified their determination to prosecute all persons who may be found violating the above-named whole some provisions of the Act in question.

ROYAL INFIRMARY AND LUNATIC ASYLUM CORPORATION, ABERDEEN—A special general meeting of the corporation of this institution was held on Dec 27th, 1892, when the Lord Provost Stewart presided. In the course of the meeting it was stated that the Jubilee fund of £30,000 with the accruing interest had been spent, and a resolution was passed to the effect that the directors be empowered to transfer from the general reserve fund to the building fund such sums as might be deemed necessary to complete the work of the new buildings. A resolution was also passed granting powers to the board of directors to reconstruct the buildings of the Aberdeen Asylum and to erect a new hospital in connexion therewith, at an estimated cost of £50,000, and to obtain by loans the sum required to carry out the plan.

METROPOLITAN ASYLUMS BOARD—The number of patients remaining in the several fever hospitals of the Board at midnight on Jan 3rd, 1893, was as follows:—Eastern Hospital 284 scarlet fever, 61 diphtheria and 35 enteric fever, North Eastern Hospital, 402 scarlet fever, North Western Hospital, 316 scarlet fever, 98 diphtheria and 12 enteric fever, Western Hospital, 267 scarlet fever, 33 diphtheria and 13 enteric fever, South Western Hospital, 272 scarlet fever, 62 diphtheria and 19 enteric fever, South Eastern Hospital 305 scarlet fever 19 diphtheria and 12 enteric fever, Northern Hospital, 736 scarlet fever and 10 diphtheria, Gore Farm Hospital, 616 scarlet fever. At the London Hospital and at Guy's Hospital there were three cases of enteric fever respectively, and one case in Charing Cross Hospital. Thirty seven cases of small pox were under treatment in the wards of the hospital ship *Atlas*.

A NEW INFIRMARY FOR LANCASTER—The committee of this institution have decided to erect a new infirmary, at a cost of £17,000, at Springfield park. Mr James Williamson, M.P., recently gave £5000 for this purpose, and Mr W. Smith, M.P. (the president), has undertaken to build the children's ward at a cost of £1000. Including sums promised, there still remain about £4500 to be raised towards the total cost.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column are invited to forward it to THE LANCET Office directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.

ALEXANDER, S. M.D. B.Ch., B.A.O., has been appointed, 1st Gen., Surgeon to the Belfast Union Infirmary.
BAILEY THOS WM. L.R.C.P. Lond. M.B.O.S., has been appointed Junior House Physician to the Westminster Hospital, vice Mills, resigned.
BIGGER, E. C. M.D. M.Ch. L.M., L.R.C.P. Irel has been appointed Visiting Medical Officer, Belfast Union Infirmary.
BOWKER, C. S. M.R.C.S., L.R.C.P. Lond., has been appointed Government Medical Officer and Vaccinator for the District of Murrumbidgee, New South Wales.
DILKS, JOHN L.R.C.P. Lond., M.R.C.S., has been appointed Resident Obstetric Assistant to the Westminster Hospital, vice Browning, resigned.
CARTWRIGHT, E. H., M.B., B.Ch. Oxon., L.R.C.P. Lond., M.R.C.S., has been appointed Assistant House Physician to Guy's Hospital.
CURTIS ALBERT, M.R.C.S. has been reappointed Medical Officer of Health for the First Sanitary District of the Staines Union.
DE BENZI, HENRY CASTRIOTI, M.R.C.S., L.R.C.P. Lond., has been appointed Senior House Surgeon to the Westminster Hospital, vice Lewis, resigned.
ELLIOTT, A. C. M.B., C.M. Edin., has been appointed Senior House Surgeon to the Preston and County of Lancaster Royal Infirmary, vice Oliver, resigned.
FISHBE, W. H. M.B., B.C. Camb., has been appointed House Physician, Guy's Hospital.
GARTH, H. C. M.B., C.M., has been appointed House Surgeon to the Croydon General Hospital, vice Mesquita resigned.
HALL, ROBT L.R.C.P., L.M. L.R.C.S. Edin. has been appointed Visiting Medical Officer Belfast Union Infirmary.
HAMILTON, E. T. E., B.Sc. Lond. F.R.C.S., L.R.C.P. M.R.C.S., has been appointed Assistant House Surgeon to Guy's Hospital.
HARDY LEONARD ERNEST, M.B. C.M. Edin., has been appointed Assistant House Surgeon to the Preston and County of Lancaster Royal Infirmary.
HORMUSJI, S. C. M.D. Brux. L.R.C.P. Lond., M.R.C.S., D.P.H., has been appointed Health Officer of Poona.
LEWIS H. WOLLEY M.R.C.S. L.R.C.P. Lond. has been appointed Junior House Surgeon to the Westminster Hospital vice De Renzi, resigned.
LORI A. G. B., L.S.A., has been appointed Medical Officer for the Gringling Sanitary District of the East Bedford Union.
MENZIES J. L.R.C.P., L.M. L.R.C.S. Edin. L.F.P.S. Glasg., has been appointed Medical Officer of Health to the Shirebrook Sick and Accident Club Workshop.
METCALFE, G. E. G. L.R.C.S. L.R.C.P. L.F.P.S. Glasg. L.M., has been appointed Medical Officer for the Chapel District of the Tonbridge Union.
MINSHALL, ARTHUR G. M.R.C.S. L.R.C.P. Lond., has been appointed Senior Assistant Medical Superintendent to the St. Pancras Infirmary Highgate.
NELLEN, GEO. MARSHALL FREDK. L.R.C.P., M.R.C.S. has been appointed House Surgeon to the Western Branch of the Brighton, Hove, and Preston Dispensary.
NORMAN, GEO. L.R.C.P. Lond. M.R.C.S. has been appointed Senior House Physician to the Westminster Hospital vice Byles resigned.
PIMBLETT W. H. M.B., C.M. Edin. has been appointed Junior House Surgeon at the Preston and County of Lancaster Royal Infirmary, vice Elliott.
ROBERTS R. P. M.R.C.S. has been appointed Medical Officer for the Carmarthen No 2 Sanitary District of the Bangor and Beaumaris Union.
SHREN A. W., M.B., L.R.C.P. Lond., M.B.O.S., has been appointed House Surgeon to Guy's Hospital.
SICHEL, G., M.R.C.S. L.R.C.P. Lond., has been appointed House Surgeon to Guy's Hospital.
SINCLAIR, WALTER W. M.B. Aberd. has been appointed Senior House Surgeon to the Birmingham and Midland Eye Hospital, Birmingham.
STEPHENS C. L.R.C.S. Edin. has been appointed Medical Officer for the Fourth Sanitary District of the Brackley Union.
THOMAS, J. D. M.B., B.C. Camb., has been appointed House Physician to Guy's Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's-inn road, W.C.—House Surgeon.
CHESTER GENERAL INFIRMARY—Visiting Surgeon for two years. Salary to commence at £30 per annum, with residence and main tenance in the house.

During the week marked copies of the following newspapers have been received - The Sunnan Bazar, New Ser Fium, Mandarim Courier, The Pioneer, East, The World, Latte, Morning, Condensed Chronicle, South Eastern Gazette, Liverpool Mercury, Southampton Observer, Some Times, Liverpool Courier, Public Opinion, Irish News, Enniskill, Melbourne, Union - Advertiser, Essex County Courier, Econ. Co. Times, Daily Telegraph, Standard, Chronicle, The Courier, is Price (Paris), Allgemeine Zeitung, Neuchâtel, Villes-Etats, North, Liverpool, Journal of Commerce, London, Bureau, Phil. Correspondence, Courier, Bradford Observer, South Eastern Daily Mail, Daily Advertiser, Times of India, Post or Mail, Liverpool Daily Post, Yorkshire Post, Frederick Mercury, Mining Journal, Local Government, Chronicle, West, Free Press and other, den Herald, Hertfordshire Mercury, City Press, Leeds Mercury, Daily Mirror, The War, American, South Britain, Globe, Surrey Advertiser, F. J. Dray and Dring Journal, Local Government, Journal, Engineering, Locomotive, China, Courier, French Herald, Daily Mercury, W. L. County, Mirror, The Times (Paris), Eastern and Chronicle, West India, and Advertiser, G. J. H. H. H.

METEOROLOGICAL READINGS

(Taken daily at 8.30 a.m. by Stewart's Instruments.)

THE LANCET Office, Jan. 5th, 1893.

Date.	Barometer reduced to Sea Level and 32° F	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radiation in Vacuum.	Maximum Temp. Shade.	Min. Temp.	Rain fall.	Remarks at 8.30 A.M.
Dec. 30	29.98	S E	28			37	27	-	Foggy
31	29.84	N E.	34	33		37	27	-	Cloudy
Jan 1	29.91	N E.	20		36	31	28	-	Snowing
" 2	30.97	N E.	27		45	30	23	-	Cloudy
" 3	30.15	W	25		33	34	22	-	Cloudy
" 4	30.37	S.W	23			35	21	-	Foggy
" 5	30.42	S W	20			25	19	-	Foggy

Notes, Short Comments & Answers to Correspondents.

EDITORIAL NOTICE

It is most important that communications relating to the Editorial business of THE LANCET should be addressed exclusively "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET should be addressed "To the Publisher."

We cannot undertake to return MSS. not used.

PUBLISHER'S NOTICE

IN order to facilitate the work of reference to the volumes of THE LANCET, we have arranged in the future to publish duplicate copies of the Index to each half yearly volume in a form in which they may be subsequently filed or bound together.

We have had a large number of duplicate copies of the Index to the last half yearly volume printed, and those of our subscribers who may wish to be supplied with loose copies can obtain the same (without extra charge) on making application to the Publisher of THE LANCET.

"THE LANCET" DURING 1892.

THE following particulars of the work of THE LANCET during the past year have been forwarded to us by a correspondent and as they are likely to prove of interest to our readers we after categorically verifying the accuracy of the figures, publish them. From the figures submitted it appears that in the year 1887 THE LANCET contained 11,744 columns in 1888 it contained 12,376 in 1889 13,728 columns, in 1890 it rose to 14,032, and in 1891 the figure reached was 14,804 columns. The year 1892 shows a still higher figure—a total of 14,784 columns, 5992—within eight of 6000—of which were devoted to purely literary matters, 8892 columns contained advertisements, and space amounting to over 100 columns was required for the purpose of an index. From these figures a simple calculation will show that the average size of each weekly impression has amounted to 142 pages. Looking at the impressions individually, it will be found that one of the numbers contains 216 pages—namely, that of Sept. 3rd. No single number of THE LANCET of corresponding size has ever before been offered to the subscribers. Of the other numbers one consisted of 200 pages one of 168 pages, there were two of 152 pages nine of 144 pages, twenty five of 136 pages, twelve of 128 pages and one of 120 pages. The

columns of literary matter include reports of clinical lectures extending over 634 columns, 861 columns have been devoted to Clinical Notes and Original Articles, and the cases recorded in the "Mirror of Hospital Practice" required 198 columns. The columns devoted to Analytical Records this year amount to 29 and 49 columns have been used for notifying New Inventions. Annotations have taken up 761 columns and leading articles have reached over 431 columns, while special articles have extended to 951 columns. About 190 columns have been devoted to the interests of public health, and reviews and notices of books occupy 200 columns. Correspondence has received space to the amount of 289 columns and the answers to correspondents required 265 columns, miscellaneous medical news covers some 317 columns of THE LANCET. Further, the Students Number contained 156 columns devoted to information concerning the regulations and arrangements of the various medical schools and examining bodies. Notices and reports of the British Medical Association have occupied 70 columns, the reports of the General Medical Council amount to 23 columns, 51 columns have been devoted to Obituary notices, and 46 columns to Foreign and University Intelligence. special lectures have occupied 6 columns. Thus 5475 columns of matter have been accounted for, and the remaining 517 have been taken up with Special Supplements reports of medical societies, law cases and Parliamentary news of interest to the members of the profession, the Services, THE LANCET Sanitary Commissions, pharmacology &c. &c.

ANASTASIO CHINCHILLA

To the Editors of THE LANCET

SIRS,—I am anxious to know if there is an English edition of the works of Anastasio Chinchilla, especially of his "Anales Históricos de la Medicina en General y Biográfico—Bibliográficos de la Española en particular," which was originally published in Valencia by Lopez and Co in 1841-8. *El Siglo Médico* of the 25th inst. contains a short biographical notice of the author, which however, deals only in generalities. Can any of your readers oblige by supplementing the information?

I am, Sirs, yours truly,

Cavendish row, Dublin, Dec. 30th, 1892. GEORGE FOY, F.R.C.S.I.

THE LATE DR. WALSH.

OUR attention has been called to what appears to have been an omission in our obituary notice last week of the death of Dr. Walsh. During the later years of his life Mr. Buckston Browne was a frequent professional attendant on the late esteemed physician and it is the belief of his friends that to Mr. Browne's assiduous care in the surgical management of the case is due the prolongation for some years of the life of Dr. Walsh. We may also note that in our leading article on "Richard Owen and Walter Hayle Walsh" (THE LANCET, Dec. 24th, 1892) it was stated that he studied physical diagnosis under Laennec. This is an error. He was too late in Paris for this advantage, but through Louis and his other great teachers he came very near it.

THE ROYAL COMMISSION ON VACCINATION

To the Editors of THE LANCET

SIRS—Can you kindly give us any information with regard to the expense the country will incur with respect to the Royal Commission including the costs of the increase of small pox? Are the Commissioners paid per diem or is it contract work—in other words, paid according to the amount of the harm done? It does seem strange after all the profession has done to mitigate disease and suffering that a Commission, some of whose members belong to the profession should be instrumental in rendering those efforts abortive.

I am Sirs, your obedient servant,

St John's Worcester Dec. 26th, 1892

WM WOODWARD, M.D.

. The members of the Royal Commission on Vaccination are not paid. They give their services gratuitously. Whilst we regret that the lengthened period during which they have been sitting should have been utilised by many as a reason for disobeying the law, it must be remembered that since so much time has been allotted to the anti-vaccinationists to state their case it is most important that nothing should now be done to prevent an adequate reply being made to their contentions. This reply is now in progress and it is hence undesirable just at this moment to urge the Commission to act without fully hearing the answer of the advocates for vaccination.—ED L.

THE VITALITÉ BATH MAT

WE have had brought under our notice a novelty in the shape of a mat for use in the bath room and the nursery. The device has been introduced by the Vitalité Sock Company and consists of a mat of absorbent material—the well known loofah, in fact—which forms a good substitute for the cork ordinarily in use for that purpose. Its fibrous nature will recommend it from a sanitary point of view. It will undoubtedly be found an agreeable auxiliary to the comfort of the morning bath.

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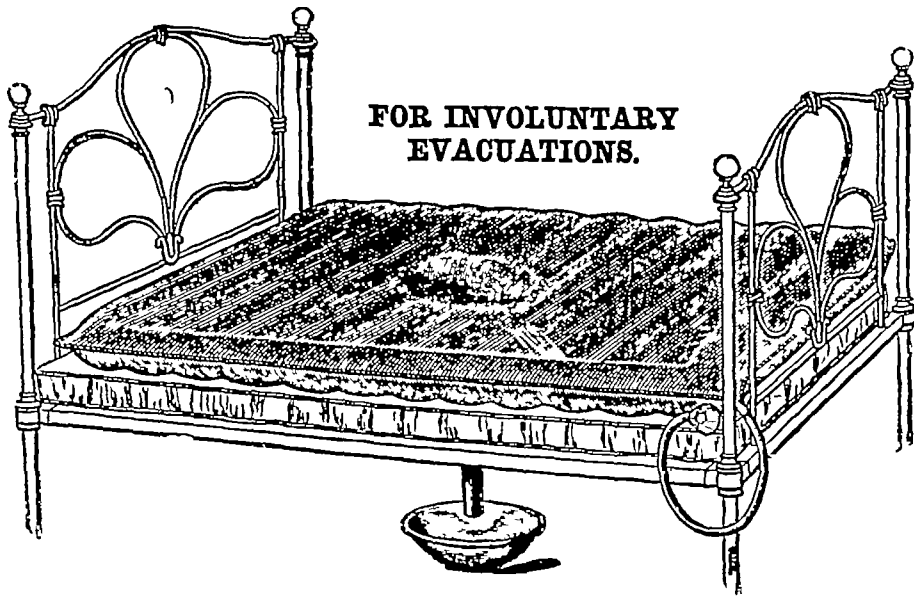
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U—United Services Club

V.—Viator, London Victoria Hospital, Folkestone, Vendor

W.—Dr Geo Wright London Mr J Woodland London Mr S Whitford, Shadwell Mr David Walsh, London, Mr J Howard

Letters, each with enclosure, are also acknowledged from—

A.—Dr S Agnew, Lurgan, Mr C Ashenden Hastings, Mr J A Arkwright, Halesowen Mr O M Ander on Christchurch, N.Z. Mr J B Aspland, Soham Anderson's College Medical School, Glasgow, M. L. London, Aqua, London

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F.—Mr Fiske, Maidstone, Mr R. Fitzgerald, Middleton co Cork, Mr C E Fitzgerald, Grahams town S.A. Mr M. H. Feeny, Ulverston F W C, London, Fernie, Great Malvern

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T.—Mr A. Thorpe, Bradford Mr F. Tratman, Bristol.

V.—Vigilant, London, Verax, London.

W.—Dr J W Wallace, Glasgow, Dr Whitelaw, Portobello, Mr J Walker Stenhousemuir, Mr J Westmorland, Manchester, Mr J T Wilson Rothsay, Mr W Walker, Manchester, W W, London.

X.—X. Y Z, London X. X. X., London, X. Preston.

Z.—Zeta, London.

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An original and novel feature of 'THE LANCET General Advertiser' is a special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice but is in itself an additional advertisement.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance. Answers are now received at this Office by special arrangement, to Advertisements appearing in THE LANCET. Terms for Serial Insertions may be obtained of the Publisher to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Sons Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

Agent for the Advertisement Department in France—J. ASTIER, 66, Rue Caumartin, Paris.

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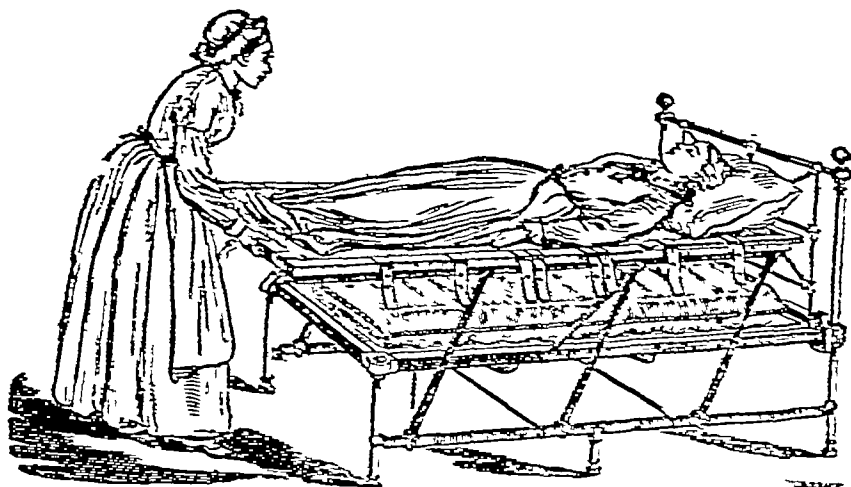
The Publisher cannot hold himself responsible for the return of testimonials &c. sent to the office in reply to advertisements, copies should be forwarded.

NOTICE.—Advertisers are requested to observe that it is contrary to the Postal Regulations to receive at Post Offices letters addressed to initials only

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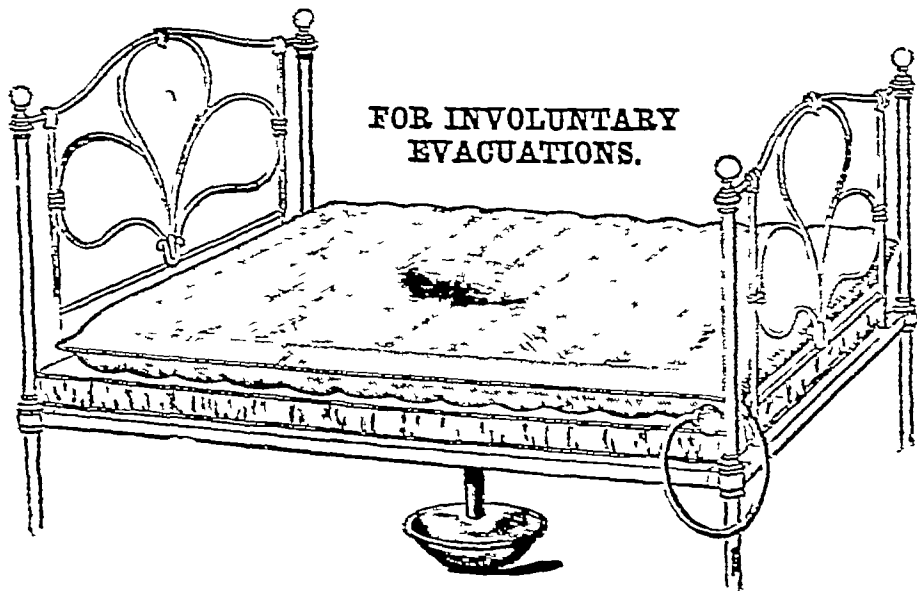
For the use of the Bed-Pan (the Lift on which the Patient rests having a suitable opening for the purpose).

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Accidents,
Debility
Old Age,
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Lettsomian Lectures

ON

SYPHILITIC AFFECTIONS OF THE NERVOUS SYSTEM

Delivered before the Medical Society of London on Jan 9th, 1893,

By JOHN S BRISTOWE, M D LOND,
LL D EDIN, F R S,

CONSULTING PHYSICIAN TO ST THOMAS'S HOSPITAL.

MR. PRESIDENT AND GENTLEMEN,—My first duty is to thank you, and I thank you very sincerely, for the honour you have done me by appointing me your Lettsomian lecturer. But being profoundly sensible of the fact that the honour entails responsibility I feel bound to tender an apology for the temerity of which I have been guilty in choosing for my subject a disease of which my experience has been small by comparison with that of some of my auditors and which has been so well discussed from different points of view by my predecessors—Dr Broadbent, Dr Gowers and our distinguished President. My excuse is that while on the one hand my choice was made hastily and without due consideration on the other hand syphilis is a disease of vast and ever growing interest. It is one of which I have seen a good deal in its constitutional forms and to the study of which I have given time and thought, and I propose to treat of it mainly in its relations to the nervous system and from the clinical standpoint, and by the discussion of cases that have come under my own observation and have been interesting or instructive to me. I trust I shall not be deemed irrelevant or tedious if before entering on my special theme, I venture to place before you a brief statement of the views I entertain with respect to the pathology of syphilis. I do not pretend that these are in any sense novel. Still it seems to me that it may be convenient and conducive to clearness of apprehension if, in dealing with this complex and protean disorder I begin with such a sketch of it as will serve to indicate the lines of thought which will run through my lectures to define my position in regard to the cases which I shall bring under your notice and to obviate the need of subsequent explanatory interpolations. I regard syphilis, as I suppose all educated medical men do at the present day, as a specific infective disease due to the invasion and proliferation of specific living organisms and as having manifest relations to other specific infective diseases, but more especially perhaps to small pox and the exanthemata, to tuberculosis and leprosy and to malignant neoplasms such as cancer and sarcoma.

The clinical history of syphilis is briefly as follows—

1. At the spot on which the disease is inoculated a hard tubercle is slowly evolved and almost coætaneously the lymphatic glands next above it become enlarged and indurated, both probably attaining their full development, without any attendant constitutional disturbance, in the course of from six to eight weeks. These phenomena collectively constitute the first stage of the disorder or primary syphilis. 2. The disease may come to an end at this point, but usually and in the natural course of events, between six and eight weeks after inoculation constitutional symptoms almost suddenly declare themselves a febrile rise of temperature takes place, a rash appears over the skin and fauces and other tissues and organs not improbably become equivalently affected. This stage of the disease usually varies in duration from a week or two to several months, but occasionally lasts much longer, and may even recur from time to time for several years. It corresponds to the generalisation of the syphilitic poison and of its effects and is known as secondary syphilis. 3. With the subsidence of this stage the disease itself in most cases comes to an end, but not unfrequently—sometimes while the secondary symptoms are yet in progress, sometimes shortly or immediately after their disappearance, sometimes after an interval of many years, and may be during an interval of apparently excellent health—a further series of phenomena manifest themselves. These are the tertiary symptoms and constitute what is known as tertiary syphilis. The lesions of this stage, unlike the rash of the second stage, are for the most part unsymmetrical in their arrangement, originate as

it were capriciously in different organs, or it may be in only one, and tend to spread locally. They are essentially of the same nature as the primary chancre and result for the most part in grave and irreparable destruction of tissue. 4. Further, syphilis is often transmitted from one or other of the parents, or from both, to the fœtus, either *ab initio* or in the progress of its development, or at the time of birth, and thus the child is born infected with the virus of the disease, which sooner or later reveals its sinister presence by the evolution of morbid phenomena which correspond to those of the secondary or tertiary stage of acquired syphilis in the adult, but present marked special peculiarities. This is known as congenital syphilis.

I will now briefly compare syphilis severally with small-pox, tuberculosis and cancer. 1. The resemblances between syphilis and small pox are obvious, especially if we have regard to small pox caused by inoculation. In both diseases specific lesions appear at the points of insertion, and are attended with concurrent specific affection of the neighbouring lymphatic glands, in both, after the lapse of fairly definite periods of time, during which as a general rule the patient's health remains unimpaired, characteristic constitutional disturbances almost suddenly arise, and in both, after a longer or shorter time (supposing the patient does not meanwhile die), the constitutional symptoms subside and health tends to be restored. Furthermore, in either case the disease proves to be in a greater or less degree self protective, and in either case it may be imparted by the mother to the fœtus. But there are also striking differences, the most important one from my present point of view having relation to the degree and quality of the protection which they severally afford. In the case of small pox the specific virus at the end of a few weeks disappears absolutely from the system, and not only is there left behind no tendency to relapse or recrudescence of the disease, but also the patient enjoys almost absolute immunity from subsequent attacks on re-exposure to contagion. That syphilis is also in some sense self protective is proved not only by experiment and observation, but also by the fact that the secondary stage tends to and often does, subside spontaneously, but, on the other hand, relapses are not uncommon, and, what is far more remarkable and distinctive, notwithstanding the subsidence of secondary symptoms the specific poison of the disease is apt to lurk in the system, dormant yet potential, and ready, under conditions as yet unknown to us, to become again aggressive and to cause serious, though for the most part localised, outbreaks.

2. The relations of syphilis to cancer seem to me quite as striking as those of syphilis to small-pox. We do not at present know whether the cause of cancer is a specific parasitic organism or whether it is a specific organism evolved out of the living tissues of the sufferer. We know, however, that the disease is specific, that having once appeared in any spot its subsequent behaviour is that of an aggressive parasitic disease, that in the natural order of events the lymphatic glands next above the primary tumour become the seat of growths identical with it, and that subsequently the disease becomes generalised and tumours appear from time to time in various parts of the body, until at length the patient succumbs. The differences are, mainly, that we have as yet no sufficient grounds for believing that cancer originates in contagion or is derived from without, that its generalisation is not, so far as we know, attended with sudden febrile disturbance and widespread or symmetrical distribution of specific lesions, but that rather it resembles in its progress the tertiary period of syphilis. Another point of difference is that while at the point of primary inoculation of syphilis a single chancre only arises, in cancer the disease spreads locally, partly by continuous invasion, partly by the development of outlying nodules. It is interesting to note, however, that tertiary syphilis shows the same tendency to local spread.

3. Now as to syphilis and tubercle. The lesions in both diseases are what pathologists term "granulomata" and are often remarkably alike in appearance—as, for example, tuberculous and syphilitic tumours of the brain, tuberculous and syphilitic tumours of the lymphatic glands and lupus and certain cutaneous syphilides. Tubercle, like syphilis is an inoculable disease, may undergo generalisation, and may remain latent in certain parts of the organism with the liability to unexpected and sudden recrudescence. Its inoculability is proved by experiment on the lower animals and even by the frequent inoculation of Peyer's patches through the swallowing of infected sputum from the lungs. At the same time the disease is spread in the majority of cases by

means of infected air or food. That the contagium of tubercle is capable of generalisation, as are the contagia of small pox and syphilis is shown in the common production of general military tuberculosis by inoculation of the lower animals and by the cases not unfrequently met with in the human being in which patients die as of an acute fever in consequence of the nearly simultaneous development of military tubercles throughout the organism. But, on the other hand, these are exceptional cases, and tubercle is to a large extent a local disease and remains localised. This tendency to localisation is observed in the case of lupus, which for years may continue to spread over the skin and yet never be followed by tuberculosis of internal organs, in the case of scrofulous glands in the neck and elsewhere, in the case of tuberculous peritonitis and even in the case of ordinary pulmonary phthisis, in each of which the disease may be, and often is, limited to the organ primarily affected. Still, in all such cases there is the possibility of generalisation, and we often meet with abundant evidence of its supervention. The tendency of tubercle to become quiescent, with the potentiality of assuming an aggressive character after some indefinite period, is not uncommonly illustrated in the course of clinical experience. Thus we may find an apparently effete tubercular mass in the lung become the centre of a swarm of military tubercles and at the same time the source of a fatal outbreak of tuberculous meningitis, or an old tuberculous kidney, which had long ceased to cause symptoms, the apparent centre of an explosion of tuberculous mischief.

It is obvious then that, while syphilis in its case-history, has close resemblances to various other diseases, it has striking characteristic features of its own which distinguish it from all others and especially that all its different stages do not correspond to all the different stages of those diseases to which it seems most closely allied. Further, syphilis, like all other specific infectious diseases, retains its specific quality throughout its whole career. In all its stages it is still syphilis and the specific lesions of its primary, secondary and tertiary stages, as also those of the congenital form of the disease, are all irritative or inflammatory growths determined by the actual presence in them of the specific living organisms which are its cause. Again, syphilis, like all other such diseases, has a specific proclivity to attack certain tissues and organs in preference to others, a proclivity which is largely determined by relative suitability of soil. And I take it that the differences in this respect which distinguish the secondary and tertiary stages are due simply to modifications in this suitability which have resulted from the protective or modifying influence exerted over the tissues during the former of these stages, and further, that the distinctive features of inherited syphilis are due in different degrees to the operation of the same cause, to differences of vulnerability of the foetal tissues as compared with those of the adult, and to interference with the developmental changes which are going on in early life.

It is very important for the accurate delimitation of syphilis to bear in mind that it, like other diseases, and indeed more than most, is apt to be complicated and obscured by other disorders and to be followed by sequelæ which though having no specific connexion with it, have been largely—and still are sometimes—regarded as essential parts of it. Thus formerly, and even in my own early days, before antiseptic treatment had been introduced and when cases of venereal disease were aggregated in special wards erysipelas, phagedæna and hospital gangrene were frequent recompaniments of primary syphilis, and even now such complications are not uncommon. But there is no doubt that these are not truly syphilitic, but are due simply to the accidental inoculation of the local sores with other pathogenic organisms. Precisely similar accidents are apt to attend the so-called natural cow pox as it appears in the cow, and hence the local lesions in that affection not uncommonly present much violence of inflammation—a phenomenon which has misled scientific anti-vaccinationists into the belief that the original cow pox was a virulent and untamed malady, instead of being, as pure inoculations prove it to be, a mild and comparatively insignificant disorder, and that when similar accidents attend ordinary vaccination they are due to the tendency of cow pox to revert to its supposed original malignancy. By sequelæ I mean not lesions arising out of syphilis and still harbouring the specific contagium and capable therefore of rekindling or spreading the disease, but morbid conditions due to damage inflicted on regions or tissues by the direct influence of the specific poison, but remaining over as it were after the

specific element has died out. I refer to such conditions as lardaceous changes in various organs, damage inflicted on the bones of the head and nose, on the eyes and ears and probably also a constitutional weakness of certain tissues, rendering them unduly liable to degenerative and other changes and to the influence of other morbid poisons.

Before completing this introductory part of my lectures I should like to make a few remarks on the communicability of syphilis. So far as we know it is only imparted by direct inoculation, and is contagious therefore in the restricted meaning of that term. At the same time the contagium of the disease is presumably an extremely minute living organism and infests the specific sores and their discharges, and it may be worthy of consideration whether it might not under certain conditions—as, for example, when the mouth and throat are the seat of disease—be communicable by the breath or through the air. There is no doubt that we meet with cases of constitutional syphilis the source of which appears to be inexplicable. That it is usually imparted by inoculation of the sexual organs is in a sense an accident, due largely to the fact that the primary sore is not in all its stages necessarily a cause of serious discomfort to its owner or preventive of sexual congress, and that in the act it becomes freely applied to a delicate, readily inoculable mucous surface. If the local manifestation of cow pox extended over as long a period as a chancre does and were attended with as little intensity of inflammation there is no reason why cow pox might not be perpetuated as a venereal disease.

Judging from the analogies afforded by other infectious febrile disorders, and from pathological observation, it may be assumed that the syphilitic virus accumulates, not only in the primary sore and indurated glands, but also in all the secondary lesions, including those of the skin and mucous membranes and in the localised growths of the tertiary stage, and that equally from all of these successful inoculations might be made. It may be assumed also that during the secondary stage, when the virus is being distributed by the blood, this fluid and tissues which are not liable to be, or are not, the seats of specific implication are also infective, though, for obvious reasons, much less potently and much less certainly infective than are the parts wherein the virus has taken root and is growing. During the primary stage, however, and during the period of quiescence which often separates the secondary from the tertiary stage and even during the continuance of tertiary symptoms, the blood and tissues not specifically affected probably remain innocuous. It is of course indisputable that, during its primary and secondary stages, syphilis is virulently contagious, and the explanation is obvious. But it is, I believe largely held that syphilis in the tertiary form is not contagious. This I cannot admit. I am free to acknowledge that syphilis in this period of its career is far less frequently communicated than it is at any other stage, but this is due to the fact that the specific lesions are at this time, as in the first stage, localised, and for the most part so localised (often in internal organs) as to afford little if any opportunity for successful inoculation.

I will venture to quote briefly two cases which, though perhaps they may not be generally regarded as absolutely conclusive on the point, seem to me to constitute a weighty indictment against the innocence of tertiary syphilis. The first was a very sad case. A young medical friend of mine, a man of undoubted respectability and honesty, married a young lady of unimpeachable character and wholly free from taint of inherited syphilis. This was three or four and thirty years ago. He was at the time, and had been for some years previously (during which time I had known him), in excellent health. But I was aware that during all this time one of his testicles had been enlarged, and occasionally had troubled him a little. I do not think he even consulted me about it or that I ever saw it, but he spoke of it occasionally, and attributed it to an injury he had received some years before while riding. His wife, shortly after marriage, became *enceinte*, and when about half the time of pregnancy had been accomplished she became covered with an abundant and quite typical secondary syphilitic rash, which subsided in the course of two or three months under specific treatment. The foetus died in utero about a month before the full time, and was born with abundant evidence of syphilitic disease. She remained free from rash until, after a few months, she became pregnant the second time, then at about the corresponding period the symptoms of secondary syphilis recurred and again subsided under appropriate treatment. The second child was born at term and appeared fairly healthy, but

within a week or two developed severe constitutional syphilis and died therefrom when it was six weeks or two months old. The mother died a few weeks afterwards from phthisis of which she had first shown symptoms during the latter part of her first pregnancy. She had never previously manifested any phthisical tendency and all her immediate relatives were and have remained free. I think there can be no doubt that disease localised in the enlarged testicle was the source of contagion. The second case also concerns an old friend of mine. A married man, who has never had any family, inoculated himself accidentally with syphilis. Within less than a year the disease affected his brain and he became hemiplegic. He recovered, however, in the course of a few months and has remained free from specific symptoms ever since, and is in a sense fairly well. About seven years afterwards his wife, who had never shown any signs of such disease previously, consulted me for a characteristic attack of syphilitic roseola and sore-throat. From this she recovered quickly under the influence of iodide of potassium and mercury and she remains well. I may add that the gentleman's disease was not of the genital organs, and that not a shadow of suspicion rests on the wife's character.

In endeavouring to arrange the material which I wish to bring before you in such a manner as to render it interesting I confess that I have experienced some difficulty, partly because, while syphilitic lesions of the nervous centres fall into several well marked categories, the symptoms resulting from them are by no means always or even generally so far distinctive as to allow of non fatal cases being arranged in corresponding groups, and partly also because we cannot always be sure even when aided by post-mortem investigation, that the cases which we are disposed to regard as syphilitic are really syphilitic or conversely. I propose not to meet these difficulties and overcome them, but to evade them, and this I shall do somewhat roughly—first, by dealing for the most part with fatal cases and considering them as far as possible under the heads of syphilitic disease of vessels, gummata and inflammatory infiltration of tissues, secondly, by discussing instructive or interesting cases which did not prove fatal or in which the diagnosis was not verified by post mortem examination, and by interpolating or adding such remarks or comments as the cases themselves suggest.

Syphilitic arterial disease has been for many years past a well recognised affection. None of the arteries are, so far as I know, exempt from liability, although, according to our present knowledge, some suffer in larger proportion than others. Both the aorta and the pulmonary artery may suffer, as also may any of the systemic branches sufficiently large to have received distinctive names, and there is abundant reason for believing that the smaller and even microscopic arteries are at least as vulnerable as their larger relatives. The syphilitic process may involve the entire thickness of the vascular walls, but it commences in the inner or outer coat and always mainly implicates one or other or both of these. I suspect that its not infrequent commencement in the inner coat is due to direct inoculation by virus circulating in the blood, and am inclined to agree with Mr Hutchinson that when the outer coat suffers primarily it is from the fact that the vessel has become involved in lesions originating in the vicinity. Syphilitic disease causes thickening and irregularity of vessel, with tendency on the one hand to aneurysmal dilatation and rupture and on the other to stenosis and more or less complete obstruction by thrombosis. The consequences which would naturally follow such conditions are derangement of circulation and impairment of nutrition in the parts to which the diseased vessels are distributed, with on the one hand softening or some equivalent change, and on the other hand hæmorrhage, either from the rupture of a diseased vessel or in connexion with diffused degeneration of tissue. It is curious that although these syphilitic lesions are occasionally widely distributed they usually occur in limited districts the vessels elsewhere remaining wholly or for the most part healthy. Before proceeding to quote characteristic cases of the association of cerebral symptoms with syphilitic lesions of cerebral arteries, I will venture to bring before you three cases in which no doubt there were either central nervous lesions or symptoms referable to the nervous centres but in which there were of secondary if not trivial importance. Their main interest indeed depends on the fact that they furnish admirable illustrations of the characters and consequences of advanced syphilitic arterial disease.

The first of these was brought before the Pathological

Society by Dr Walter Edmunds on May 3rd, 1892.¹ The patient was a man aged thirty six, who came under Sir William Mac Cormac's care on account of an aneurysm on the right side of the neck, which had been rapidly increasing in size. He had a few days before admission been seized with a sudden attack of faintness, and after admission the mere handling of the tumour frequently brought on similar attacks. Owing to this circumstance, to the belief that his arteries were extensively diseased (for no trace of pulsation could be felt in any of the arteries of either upper extremity, and there was a loud basic systolic murmur), and to the fact also that the patient was exceedingly ill, it was decided not to attempt any operative procedure. I was consulted in the case and concurred in this decision. The patient had had well marked syphilis twelve years previously. He died comatose twelve days after admission. The heart was large and the pericardium adherent by easily broken-down adhesions. The valves were healthy. A gumma about two inches in diameter projected from the groove between the right auricular appendage and the pulmonary artery. The whole of the thoracic aorta, including the arch, was enormously thickened, all the coats being involved, but the outer coat much more so than either of the others. In places they were collectively more than eight times as thick as natural. The thickening extended along the innominate and right subclavian, the latter of which would only admit of the passage of a bullet probe. The right common carotid was healthy, but the right internal had springing from it near its origin a globular aneurysm about two inches and a half in diameter. The left common carotid was diseased and only admitted a bullet probe, and the left subclavian about an inch from the aorta ended in an impervious fibrous cord. The cerebral and abdominal arteries were all healthy, and no other visceral syphilitic lesion was discovered.

The second case was exhibited before the same Society and on the same evening by Dr Herbert Hawkins. It was that of a girl aged eleven who was admitted into St Thomas's Hospital suffering, it was supposed, from acute nephritis. After experiencing one or two short attacks of illness, probably due to infarction of the lungs, she was observed on Feb 7th to have swollen and cold legs and a few days later swelling of the face. She was admitted on the 20th being at this time extremely ill. She had general dropsy, was passing very little urine, which contained a small quantity of albumen but no casts, and there was evidence of pulmonary congestion. Subsequently she passed a little blood on one occasion with her urine, which continued to be for a time very scanty, but during the last four days of her life it became fairly abundant and ceased to be albuminous, the lower part of her lungs became solid, her pulse of high tension, she presented the Cheyne-Stokes breathing and died (apparently from uræmic poisoning) on March 2nd. At the post mortem examination gross disease was found in nearly all the arteries of the body. The first part of the aorta was studded with grey translucent spots and patches from the size of a split pea to that of half a crown, and for a length of three inches, immediately above the bifurcation the thickening was so great that the channel barely admitted a bullet probe. Similar patches were observed in the common carotids and subclavians, in the left internal carotid as it entered the cranial cavity and in the right internal carotid involving the origin of the middle cerebral. There was similar disease throughout the pulmonary arterial system. The renal arteries towards their entrance into the kidneys were completely obstructed by clots which were old and white at the periphery, but red and comparatively recent centrally. There was an old infarct in the kidney, but neither organ showed any evidence of nephritis. The liver presented a patch of ptenitic thickening and was rather large. The spleen was large and firm and its capsule thick and covered by old adhesions. The lower and back parts of both lungs were consolidated and contained large infarcts. There was hæmorrhage into each lateral lobe of the cerebellum, the clot in each case being the size of a hazel nut. No history of syphilis was elicited and the teeth were quite normal. There can be no doubt however that the lesions in this case were the result of congenital syphilis.

The next case is one which I exhibited before the Pathological Society on the 1st of April, 1895 as an example of aneurysmal dilatation of the coronary arteries of the heart. The patient was a sailor aged twenty two who was admitted to hospital for what was supposed to be fever to which paraplegia

succeeded, and who died at the end of three months apparently from exhaustion. The case was not under my care, and I can give no further clinical details concerning it. The pericardium was healthy. The heart was somewhat enlarged, and in the course of the arteries ramifying over its surface were observed a number of nodules, isolated and in strings, and individually from the size of a pea downwards, the nature of which at first sight was not very apparent. Dissection, however, showed that they were aneurysmal dilatations of the trunks and branches of the coronary arteries. In some situations the vessels presented an irregular sacculated condition, involving them from half an inch to two inches of their length, and in some instances continuous series of vessels were affected. The parietes of the dilated parts were thick, firm and apparently consisting of dense fibroid tissue. Some were empty, others were filled with adherent, tough buff coloured clots. The muscular walls of the heart and its valves were healthy, as also was the arterial system generally. There were several rather large patches of pulmonary apoplexy in the right lung. The liver and spleen were congested. The kidneys were of normal size, but the cortical substance of each was thickly studded with buff coloured patches and dark red-coloured tracts which seemed to have resulted from hæmorrhage occurring at different times. I described the brain and spinal cord as healthy.

I am not aware that at this time (thirty six years ago) any suspicion was entertained that the arterial system was apt to suffer in the course of constitutional syphilis, neither was it then the custom to examine the texture of the nervous centres so critically as has been done of recent years. Considering, however, that the patient died paraplegic, I have now little doubt that morbid changes might have been discovered in the cord had it been treated and examined by modern methods. No history of syphilis is recorded in this case, but there is also no reason to believe that any suspicion of syphilis was entertained while the patient was under treatment or that he was ever questioned on the subject. But I have for many years now regarded the specimen which I bring before you as a typical example of syphilitic disease of the coronary arteries and the case as one in which paraplegia was due to similar disease of the smaller arteries distributed to the cord.

In the following year Nov 3rd, 1857, Dr Peacock and I showed a case at the Pathological Society which seemed to me to be of singular interest. It was that of a pitman aged thirty five who had been admitted under Mr Le Gros Clark's care for hydrocele. This was tapped, and the testicle was then found to be much enlarged. Three or four days after admission he began to lose the use of his right arm and subsequently his speech became affected. It was then ascertained that six months before admission he had had a fit, followed by paralysis and failure of sight, from the effects of which he had in great measure recovered. The patient was now transferred to one of Dr Peacock's beds. At this time he appeared to be intelligent, but his speech was imperfect, his mouth was drawn to the left and he had almost completely lost the use of his right arm, but he could move his legs freely. There was no anæsthesia. The pupils were widely dilated, more especially that of the left eye, and scarcely responded to light. He could swallow solids, but not fluids. He improved a little for a few days. But twenty days after admission into the medical ward he had a fit and became comatose, in which condition he died two days later. The calvaria and dura mater were healthy, the subarachnoid fluid scanty. The large veins ramifying over the surface of the brain were distended with blood, but there was little capillary congestion. The substance of the brain was everywhere of normal consistence and colour. The ventricles contained but little fluid. The basilar artery in nearly its whole length was white, opaque and solid, its canal was occupied by a cylindrical body, the anterior extremity of which was rounded, while the posterior was bifid and formed a nipple like projection into each vertebral artery. The body was hollow and contained a little colourless fluid, but its parietes were tough and greyish and adherent to the arterial walls. The adhesions, however, were neither dense nor universal, and it seemed possible that there was space for a little blood to pass between them. The cerebral portions of the internal carotids had not more than half their normal diameter, and both they and their branches for a length of half an inch were blocked up by solid adherent coagula of old formation. All the other arteries at the base were healthy and contained either fluid blood or soft coagulum. The heart was large,

but its valves were healthy. There was a small hydrocele on the right side and the corresponding testicle was in a state of chronic inflammation. All the other viscera were healthy.

This case is remarkable from the fact that at the necropsy all the main arteries at the base of the brain appeared to be completely obstructed by old coagula, and the puzzle as to how the cerebral circulation and the normal consistence of the brain had been maintained seemed insoluble. I can only suppose that the brain had been imperfectly supplied through the agency of the partially obstructed basilar and the circle of Willis and that his final seizure was connected with some increase of obstruction taking place here at the time of his last fit. It seems odd to me now that I seem to have had no suspicion that the arterial disease was syphilitic, either when the case was exhibited or a year later, when I read before the same Society a paper entitled "An Analysis of Seven Cases of Obstruction of the Cerebral Arteries," in which I not only included this case but quoted two others with a definite history of syphilis and ventured to suggest of them that the arterial disease was syphilitic. It is true that no history of syphilis was obtained and obviously no suspicion of it was excited by the condition of the testis. I have no doubt now that the affections of the testis and of the arteries were both syphilitic.

One of my twosupposed syphilitic cases just alluded to is narrated at some length in the tenth volume of the Transactions of the Pathological Society, p 21. The patient was a steam packet engineer who was admitted to hospital on Jan 4th, 1859. He had had three fits, the first some years previously, the second eighteen months before admission and the last eleven days. He had continued to follow his employment (although after the second fit he had become liable to headache and vertigo) until the occurrence of the third, which was followed by partial left hemiplegia and indistinctness of speech. On admission he was still suffering from hemiplegia and thickness of utterance and appeared imbecile. While under treatment the imbecility increased and he became troublesome and spiteful and on one occasion threw his faeces at the Sister. On Feb 25th he passed into a comatose condition and remained thus for twenty seven hours, when he died. No history of syphilis was noted. At the post-mortem examination, however, the scars of ulcerated buboes in the groins were observed. On removing the calvaria the dura mater over the greater part of the upper and lateral aspect of the left anterior cerebral lobe was found to be thickened, rough, and a little congested, the corresponding surface of bone being rough and softened. The surface of the brain generally was healthy though a little congested, but the dura mater in the region before indicated and in an area of about eight square inches, was firmly adherent to it by means of a layer of fibroid tissue in which and partly in the subjacent brain were embedded two or three tough opaque white fibrous masses from the size of a hazel nut downwards, the grey matter corresponding to the adhesions was softer than natural and in places had wholly disappeared, in the anterior part of the left corpus striatum was an imperfect cyst, apparently of hæmorrhagic origin and about as large a hazel nut, the anterior half of the right corpus striatum was congested and much softened, the rest of the brain was fairly healthy, the left internal carotid and its branches for about an inch were buff coloured and looked atheromatous, and on slitting them up they were found to be filled with adherent cylinders of tough old conglum, the other vessels were healthy, the heart and lungs were normal, the liver was attached to the diaphragm by numerous old adhesions which corresponded for the most part to deep fissures in the surface of the organ, and these in their turn corresponded to cicatrix like tracts in the substance of the liver, embedded in some of which were small knotty tumours. All the other organs were healthy.

I remarked of the case that "it was exhibited chiefly in reference to syphilitic disease of internal organs which had been several times brought under the notice of the Society by Dr Wilks and other observers. The kind of deposit supposed to result from the syphilitic poison was recognised both in the liver and in the brain." Later, in the same volume, when I again referred to this case amongst my group of seven, I spoke of it and one other case, which I shall not now quote, in the following words: "In two of the cases the patients had suffered from well marked syphilis. Is it possible that the secondary cachexia of this disease is capable of producing the condition of cerebral arteries under consideration?" I may add that even at this time what are now known as gummata of internal organs were by no means

generally regarded as syphilitic, and that, so far as I know syphilitic disease of arteries was not recognised. Indeed, I may point out, as showing how little this latter lesion was suspected of having any association with syphilis, that even our President, in his excellent article on constitutional syphilis, which appeared seven years later in "Reynolds' System of Medicine," makes no allusions whatever to the subject.

In the sixteenth volume of the Transactions I published another case J C—, a carpenter aged twenty seven, came under my care on May 2nd, 1863. He had contracted syphilis four years previously and had had secondary eruptions at intervals since. He had been attacked four days before admission with pain in the head and giddiness without loss of consciousness, and at the same time lost power in the right arm and in the legs. On admission he was quite sensible, but his speech was imperfect. He complained of giddiness and of aching in the shoulders. His right arm was powerless and his mouth was drawn to the left. His legs appeared fairly normal. There was no anæsthesia or affection of the special senses and his pupils acted to light. He became drowsy some days after admission, but there was no material change in his condition until the morning of the 16th, when, after complaining of pain in his head, he suddenly became insensible. He never recovered complete consciousness, but would now and then respond by opening his left eye when shaken or spoken to loudly. The pupils were equal and acted to light. The left arm lay limp and entirely without motion, but all the other limbs, including the previously paralysed right arm, presented occasional slight convulsive movements. During the last few days of life he was completely comatose, his convulsive movements ceased and his eyes became divergent. He died on May 28th. The skull and dura mater were healthy. The arachnoid was somewhat opaque and there was a little turbid fluid in its cavity. The pia mater was slightly congested. The arteries at the base were healthy with the exception of the right middle cerebral, which was completely obstructed by a firm decolourised clot. The middle lobe of the right cerebral hemisphere was softened and the grey matter in parts congested, in parts paler than usual and yellowish. The left corpus striatum presented a cavity about one-third of an inch in diameter containing turbid fluid and bounded by vascular walls. The heart was healthy, the lungs pneumatic in the lower lobes. The capsules of the liver and spleen were thickened in patches, but otherwise these organs were normal. The kidneys were small, and presented a few irregular depressions on the surface. I remarked of the case that it was interesting as furnishing an example of obstruction by clot of one of the middle cerebral arteries without any discoverable source of embolism, and from the fact that the patient had, to within a short time of his last illness suffered from syphilis, which I had already shown to be a not improbable cause of such obstruction. I remarked, further, that the obstruction of the right middle cerebral must have been the cause of the sudden aggravation of symptoms, with paralysis of the left arm, which took place twelve days before death, and that his original attack of right hemiplegia must be associated with the presence of the cyst discovered in the left corpus striatum. It seemed to me doubtful whether this had resulted from hæmorrhage or softening, but I thought it probable that in either case it had been determined by disease of some of the minute terminal branches of the left middle cerebral distributed to the affected region.

Since the case just narrated was published, now nearly thirty years ago I have naturally seen many other cases of syphilitic disease of the cerebral arteries in some of which the arteries were alone implicated, in more of which the arterial disease was complicated with gummatæ and amongst them two cases under my care which were published as Cases 1 and 2 by Dr Greenfield in his communication to the discussion on visceral syphilis were recorded in the Transactions of the Pathological Society for 1877. But there is naturally a certain amount of sameness in cases of cerebral arterial disease, and I shall content myself therefore with devoting the remainder of this lecture to the consideration of a case or two in which the disease was limited to the basilar or its branches, and in which the pons or neighbouring parts had undergone softening. I published a paper on this subject in THE LANCET of July 7th 1883. The cases quoted therein were six in number of which only two were certainly syphilitic, but I strongly suspected, though I had no proof, that two or three of the others were of the same nature.

The first undoubtedly syphilitic case was that of a young

man aged thirty three who had contracted a chancre exactly six months before his death, and who was suffering from secondary symptoms in the form of psoriasis when his fatal illness seized him. Excepting for his secondary symptoms he had enjoyed good general health until within three or four weeks of his admission. He was then attacked with occipital headache which was followed in the course of two days by frequent vomiting. He was admitted on April 16th, 1872, at which time he was still suffering from headache and presented abundant traces of his syphilitic rash. Two days after admission he began to rumble a little and to be troublesome, and the next morning it was noticed that his pupils were contracted, his conjunctivæ congested, and his left eyelid dropped slightly. Five days later, when he awoke in the morning he was found to be hemiplegic on the left side, and after another four days it was noticed not only that the left lid still dropped a little, but also that there was paralysis of all the muscles of the right eye, excepting the superior oblique. Meanwhile the patient was becoming more and more drowsy and stupid, and he died the fourth day after the paralysis of the muscles of the right eye had declared itself—namely on May 2nd. Notwithstanding the fact that the first evidence of brain disease had shown itself in less than five months after he had contracted syphilis, it was naturally assumed that the patient was suffering from cerebral syphilis and he was treated accordingly. Further, it was not difficult to speculate from the symptoms as to whereabouts the cerebral lesion would be found. The left-sided hemiplegia pointed to involvement of the motor tract issuing from the right hemisphere of the brain, and that the part directly implicated was the right crus cerebri, or the contiguous portion of the pons, had been foreshadowed by the slight ptosis observed in the left upper eyelid. This surmise was confirmed when a few days later total paralysis of the right third nerve was added to the other phenomena. At the post-mortem examination there was found syphilitic thickening with obstruction by clot, of the right posterior cerebral artery, and consequent softening with more or less disintegration in patches of the right crus cerebri and of some of the neighbouring parts to which this artery is distributed. The paralysis of the right sixth was no doubt due to thickening of the membranes observed at the base of the brain, and the very partial paralysis of the left third was connected with some thickening of its trunk. It may be assumed that the patient's early and comparatively vague cerebral symptoms were caused by the disease of the arterial walls and slight associated inflammation of the membranes in the neighbourhood, that the hemiplegia took place when the channel of the posterior cerebral became suddenly occluded and that the right third nerve got involved as the area of softening extended. Beyond considerable excess of fluid in the ventricles there was no further sign of disease in the heart, the abdominal and thoracic organs were all healthy.

The second case was that of a young man aged twenty-seven, who had had primary syphilis about two years before the symptoms of cerebral disease arose. He was admitted under my care on Dec 24th 1881. For three weeks he had complained of pain in the frontal region, which had become more severe during the last two days. There had been no sickness. During the night of the 23rd he was seized with almost complete hemiplegia on the left side, associated with rigidity of the arm and leg inability to speak, and well-marked paralysis of the third nerve on the same side. On admission he was still partially unconscious, the pupils were dilated and equal there was an external strabismus of the left eye and ptosis of the left eyelid, the mouth was drawn slightly to the right, the tongue was protruded markedly to the left; he was unable to speak, but seemed to understand what was said to him and indicated that he suffered from pain in the frontal region no difficulty of swallowing, the left arm was flexed at the elbow and lay across the chest and the hand was closed, the whole limb was rigid and completely paralysed, the left leg also was rigid but extended and he retained slight power over the movement of the toes, the patellar reflex was brisk on both sides but more so on the left, no ankle clonus, plantar reflex almost absent on the left side, left leg colder than the right, no anæsthesia. The next day he had attacks of partial unconsciousness during which the head and eyes were strongly turned to the left. On the following day he manifested some return of the power of articulation, and was evidently not aphasic. All signs of paralysis of the left third portio dura and hypoglossal had disappeared and the paralysed arm and

leg had become limp. Three days later the urine, which from the beginning had had to be drawn off, had become alkaline and offensive, and on that day his temperature reached 103.4°. After this the pulse increased in frequency, the temperature rose irregularly, and on one occasion he had a prolonged rigor, there was a slight return of the paralysis of the left third, facial and hypoglossal, and the left arm and leg again became rigid. He then passed into a state of coma, and at the time of death (namely, noon Jan. 4th, 1882) his temperature had risen to 109.2°. The vessels of the pia mater were injected, but no trace of meningitis was discoverable. The posterior cerebral and some of the smaller arteries in the neighbourhood were much thickened, yellowish and opaque, apparently the seat of syphilitic disease, but the other and larger vessels were healthy. There was slight comparative softening of the left temporo-sphenoidal lobe, and the pons, which was somewhat smooth, was soft and semi-fluctuating. On incising this part an irregular patch of broken-down brain substance was found to occupy the greater part of its right half, being separated from the surface and from the surrounding healthy substance by a zone of congested and apparently inflamed tissue. The rest of the brain substance was normal. No other important signs of disease were found. The post mortem examination does not clearly explain the concurrence of left hemiplegia and slight paralysis of the left third, but, on the other hand, the softening of the right half of the pons accounts both for the left hemiplegia and the deviation of the eyes and head to the left. It is interesting in this case that while some of the larger arteries at the base were diseased they were not obstructed and that while the pons was the chief seat of softening the basilar artery was healthy. I suspect that in this case, as in some of the other cases I have quoted, where there was manifest syphilitic disease of arteries at the base associated sometimes with obstruction, and where patches of softening were found in regions with which these diseased arteries had no connexion the softening was due to obstructive disease of the smaller vessels ramifying in the softened district.

OPHTHALMIC KNOWLEDGE CONSIDERED AS ESSENTIAL TO GENERAL MEDICAL AND SURGICAL WORK¹

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THE subject of ophthalmic knowledge in relation to medical and surgical work is not new, but the time is suitable and the subject itself is ripe for further consideration and review. By certain new regulations the Conjoint Board of the Royal Colleges of Physicians and Surgeons has decided that all students commencing professional study after January 1st, 1892, must have received three months' clinical instruction in ophthalmic surgery at suitable institutions before being admitted to the final examination. We may expect therefore that this new lead will be followed in other directions, and that before long the ophthalmoscope is likely to occupy a very much more prominent place in the ordinary practice of our profession than it has done hitherto. I shall not be considered censorious or inaccurate when I state my belief that the bulk of the profession engaged in general practice derives little information or assistance from the use of this instrument. Want of skill, want of time, imperfect knowledge of what can be learnt, and possibly inadequate remuneration for the time consumed in the investigations all contribute in divers ways to keep the ophthalmoscope in general practice very far below its capabilities. The investigation of ocular conditions has thus been handed over to a small number of men, and it has come to be regarded as not inconsistent with a reputation for sound general professional knowledge that the individual should candidly confess absolute ignorance of all pathological conditions of one of the most important, if not one of the most vital, organs of the body—an organ, too, in which changes associated with many common and important general diseases can be seen and watched *in situ* during life, whilst in the case of the larger viscera, which

we handle or palpate, percuss or auscultate, under the impression that we know all about them, the various alterations are much more largely matters of inference. No instrument probably since the introduction of the stethoscope has done so much to add to our general knowledge of disease, and none is more highly valued by those who have mastered its difficulties. My purpose now is to refer to a number of facts, nearly all of which can be illustrated by cases occurring in my own practice, to prove that the general practitioner should not consider a knowledge of ophthalmic medicine and surgery as outside his proper sphere, but rather that it should be the necessary complement of his professional knowledge. Many patients seek advice for general ailments, the only cure for which is the suitable correction of their refraction. Children in this way are often chronic invalids, till an observant schoolmaster, perhaps, detects their deficient sight, suitable glasses are provided and their recurring headaches and rhubarb and soda become from that time things of the past. The following instance will show how an important and, possibly, a serious mistake may result from so simple a matter. A child was admitted into hospital with some febrile disturbance and vomiting, complaining of its head and with an internal strabismus which had just appeared. When the physician went his rounds the probable existence of tuberculous meningitis was gravely discussed. As the child improved and the strabismus persisted the delusive quiescent period of that disease was not lost sight of. The child, however, remained so well that in a happy moment the ophthalmic surgeon was consulted as to the strabismus. It was due to hypermetropia. Such a case points the moral that every medical man ought to be able to distinguish between a paralytic strabismus and one due to hypermetropia, and that when a strabismus becomes a possible factor in a diagnosis its real nature should be decided. Mistakes in diagnosis are easily made and lead to errors in treatment in such cases, but it may be reasonably hoped that their numbers will diminish, for abnormalities of refraction are capable of immediate detection by ophthalmoscopic methods, which need the very minimum of skill and are quite within the power of anyone to acquire. The purulent ophthalmia of infants and the gonorrhoeal ophthalmia of adults are not liable to be overlooked. These serious diseases at once create anxiety and the medical attendant cannot release himself from his responsibilities, as he may prefer to do in less urgent matters.

In cases of phlyctenular ophthalmia and corneal ulceration, which he will frequently be called upon to treat if his practice is large, his responsibilities are not unimportant. The damage to vision from the irregular astigmatism produced by the corneal scars may seriously influence the choice of an occupation and the future prospects of the patient. As these ailments so frequently recur in the same individual and amongst the poorer classes, the practitioner is forced to deal with them, and it is important that he should know how to treat them well. He should not lose sight of the scrofulous diathesis with which they are so frequently associated, and should avoid measures for the local condition that would have a deteriorating influence upon the constitutional state. One point he should never lose sight of—viz., that if constitutional delicacy is a predisposing cause of the ailment refractive errors are often exciting ones. Another of the more common forms of eye disease with which medical men are familiar is interstitial keratitis. The evidence it may leave behind it, like the results of a symmetrical disseminated choroiditis, may furnish the clue to the existence of the syphilitic taint and in obscure conditions may have a diagnostic value. The discomfort arising from some of the ocular manifestations of syphilis may lead occasionally to the detection of the disease for the first time. Two persons presented themselves amongst my outpatients last week suffering from iritis. One was a woman who made no mention of a well marked secondary eruption with which her body was covered. When it was pointed out she attributed it to "change of life," and stated that she had had no advice or treatment for it. The other a young man, had contracted a venereal complaint not long before, and when he came with iritis was extensively affected with a severe syphilitic rash. He was undergoing no treatment and would have gone away without referring to it if its existence had not been sought for. These are cases whose real nature may easily escape detection. All who have studied syphilis as a whole should be familiar with its commonest manifestations in all the important organs of the body and know how to treat it both locally and constitutionally. But it is not only in syphilis

¹ The Presidential Address to the Huddersfield Medical Society, delivered Nov. 1st, 1892.

that iritis may occur, it may be produced by a deposit of "tubercles, which may be seen studding the iris. The prognosis is not very favourable. These cases left to themselves are more likely to end fatally from tuberculous inflammation of the meninges or other organs than to recover, so that if good is to be done the treatment must be decided and prompt. Fortunately this form of iritis is not common, but it is important that its gravity should be speedily recognised and that it should not be left till it is too late to interfere with any prospect of success. Many years ago Mr Hutchinson drew attention to the intimate connexion existing between certain cases of frequently recurring iritis and the rheumatic or gouty diathesis, and published a long series of cases in the Royal Ophthalmic Hospital Reports. This disease, which is one of the most troublesome and intractable forms of ocular inflammation, often seriously cripples those who suffer from it and may lead to more or less complete blindness. Where hospitals are distant and specialists unknown it is essential that the practitioner should distinguish and adequately estimate such conditions, so that he may carry out independently and intelligently a line of practice together with suggestions or hints that may come from those of greater ophthalmic experience.

With the introduction of the ophthalmoscope many pathological conditions were revealed within the eyes which experience has proved to be connected with, and often the result of, various constitutional diseases. The delicate and highly organised nervous and vascular layers of the fundus are, probably more than any other similar substance in the body, liable to be affected by diseases which seriously influence the nervous and vascular systems, and sight is so sensitive and of such value to the individual that any impairment of it is quickly detected by the sufferer and viewed with alarm. Thus it happens in many general diseases that the patient first becomes aware that something is amiss by the onset of defective vision. It is a pity that visual deficiencies do not attract more definite professional attention, for the custom is widely prevalent to go first to the optician for glasses rather than to the medical man for advice. If the optician has a fair knowledge of his business and is a conscientious man he frequently recognises at once his inability to help, but it is no uncommon thing to find much money spent on glasses, time wasted, and vision still further impaired before professional assistance is sought. For the intelligent use of the ophthalmoscope in general practice a certain amount of elementary knowledge is required. Without this appearances would often be misread or given rise to ideas that are vague or altogether mistaken, but when once this knowledge is acquired careful observation of the many intra ocular conditions that are to be met with in abundance in practice cannot fail to be highly instructive, to enlarge our grasp of disease and of pathological processes and to prove eminently useful towards forming a sound opinion. Not the least important part of this elementary knowledge is anatomical—viz. the ability to decide in what structure within the eye the visible lesions are really situated. Many men are able to use the ophthalmoscope without difficulty but are unable to give adequate reasons (anatomical ones, I mean) for ascribing certain conditions to the retina and others to the choroid. Consequently when they meet with appearances differing from those they have learnt to know by sight and labelled with a name they find themselves at a loss and unable to form clear and decided ideas about them. On the other hand, those who possess this knowledge and who are able to locate in the one or other structure and who are able to structure what they see have a sound foundation upon which they can build if they use their opportunities. The inflammatory and degenerative states and hemorrhages which are to be met with in the retina they will trace in most cases to some constitutional disease or diathesis. In the majority of instances some form of Bright's disease will be the cause. In some the existence of reinitis will be of value as an evidence of advanced disease, whilst in others renal disease may not be suspected until the ophthalmoscope reveals an inflamed retina as the cause of failing vision. Not long ago I saw a woman in whom well-marked retinal changes led me to detect diabetes, until then unsuspected, and I remember another instance in which a medical friend and myself were greatly assisted in our diagnosis by finding renal hemorrhages associated with diabetes and albuminuria. Sometimes pathological changes are seen in the retina in syphilis, in leucocythemia, in anemia, pernicious or simple, and in gout. Embolism of the central artery too causing sudden blindness in the affected eye and typical ophthalmoscopic changes may like

embolism of a cerebral artery, be one of the disastrous results of cardiac disease. Choroidal mischief has much less significance as an indication of constitutional disease than reinitis, yet it sometimes affords information that may prove of the greatest assistance. I am permitted to refer to a case that some years ago was sent into the Fever Hospital supposed to be suffering from typhoid fever. As time passed the diagnosis remained uncertain. Curiosity prompted me to ask to examine the eyes, and I saw what appeared to be choroidal tubercle. The necropsy proved the accuracy of this supposition and the final diagnosis of tuberculous meningitis was correct. I know of another instance in which the timely recognition of tubercle in the choroid of a patient who did not seem seriously ill enabled a diagnosis to be made of acute general tuberculosis and a professional reputation to be saved from damage. Nor must I omit to mention the frequency with which various forms of choroidal disease are to be found in the subjects of acquired or congenital syphilis. In a large number of instances affections of the optic nerve are closely associated with some disease which lies well within the province of medicine or surgery. Optic neuritis is sometimes to be seen in albuminuria and it may be one of the more serious signs of lead poisoning. In my case-books I have a note of a man with double optic neuritis from syphilis or such intensity as to cause complete blindness, but which, under vigorous mercurial treatment, recovered completely with normal acuteness of vision, and one of my dispensary patients still under treatment who came for failing vision due to papillitis in his only good eye had an unsuspected chancre and a secondary rash.

Optic neuritis is developed in various intra-cranial diseases, but in cerebral tumour it is one of the chief diagnostic signs. We may all think ourselves competent to diagnose so gross a lesion as a cerebral tumour but if we cannot use the ophthalmoscope we cannot do it without assistance. The surgeon of the future who may aspire to interfere with such growths will rightly deserve to be called "mechanical" rather than "scientific" if he is unable to arrive at his diagnosis without the co-operation of the specialist. Though primary atrophy of the optic nerve, as distinguished from post-neuritic atrophy, is also met with in plumbism, its chief interest lies in its connexion with sclerosis of the spinal cord. When a student I used to wonder that I never saw atrophied discs in the well marked cases of locomotor ataxia which were common enough in the wards and amongst medical out-patients. But now I know that what I missed there is to be found in ophthalmic clinics. Here cases of primary atrophy are of sufficiently frequent occurrence in which a suspicion, a probability, or an absolute certainty exists as to their association sooner or later with disease of the spinal cord. The length of time that such conditions take to develop serves to deprive many of these cases of a good deal of their interest in hospital practice. But in private practice it is otherwise. If the progress of the disease is slow the interest of the medical man is kept alive as in the course of years he sees certainty issuing out of obscurity. Many years ago my sympathy was aroused on behalf of a comparatively young man who had been stricken with blindness. In due course I came in contact with him professionally and witnessed attacks which the term gastric crisis aptly designates. Their cause seemed unfathomable. The blindness was due to optic atrophy and though the knee-jerks were still present I felt that these two interesting conditions had somewhere a connecting link. The patient's subsequent history may be full of interest for me, for I expect if he lives he will develop other symptoms which will leave the nature of his complaint no longer in doubt. Nor is atrophy the only ophthalmic symptom of interest in spinal cord diseases. Another case illustrates the transient paralysis of the ocular muscles which may be seen occasionally in the early stages. A female aged thirty five, recently under the care of a medical colleague for vague pains in the head and limbs after influenza, presented herself amongst my out-patients with paresis of the right third nerve which gradually increased and then improved, disappearing completely when after a couple of months a paresis of the left third nerve occurred. The duration of the second affection was only short. This patient had no knee-jerks and when I referred her to my colleague he was able to elicit a description of true lightning pains. We may meet also with paralysis of the muscle of accommodation as a sequel of diphtheria. Such a case came to me not long ago and with it there was paresis of the soft palate muscles which caused a nasal voice and permitted food to pass into the nose, the only remedy was the child's inability to read

that attracted its parents' attention. But the intricacies of the paralyzes of the ocular muscles and of such conditions as hemianopsia are so valuable as localising symptoms in cerebral disease and so complicated and difficult to remember that it is no small satisfaction to know that we can find very valuable information about them in Mr. Swanzy's Bowman lecture in vol. ix. of the *Ophthalmological Society's Transactions*. Ophthalmic complications of considerable interest are some times produced by the most common diseases. There is ulceration of the cornea that is occasionally seen with herpes zoster of the first division of the fifth nerve, and I may here notice a similar condition that may result when the same nerve is implicated in disease. Amongst my records I find a note of one case in which an atrophied disc and complete blindness were attributable to an attack of facial erysipelas, doubtless with orbital cellulitis, and only recently I had to remove an eye which was found completely disorganised when an erysipelatous swelling subsided and allowed the lids to be opened.

For the investigation of ocular conditions connected with pregnancy the general practitioner has greater facilities than anyone else. When they occur in connexion with eclampsia and albuminuria the great and pressing danger to life tends to throw the sight affection into the background. But there are states in which the damage to vision may alone require consideration. Thus lately I have followed the progress of a case, which I hope soon to record in detail, in which there was every reason to believe that pregnancy was leading slowly and insidiously to optic nerve atrophy and complete blindness. By the kindness of Dr. Braithwaite the patient was admitted into the Leeds Infirmary for the induction of premature labour. Vision that had fallen to such an extent that the fingers could not be seen began to improve directly the immediate effects of the labour had been recovered from and is now about one third of the normal standard. This result was the more gratifying to the patient and myself inasmuch as the other eye had been completely blind for years from atrophy which had come on in connexion with a previous pregnancy. Severe injuries often implicate the eyes, and important internal changes will take place within an eye as the indirect result of an injury in its neighbourhood. A conspicuous example of this not long ago left the Huddersfield Infirmary, where she was under the care of my father. A young woman was shot in the right temple, the bullet passing below the orbit, across the nasal fossa and lodging probably in the antrum of the opposite side. The bullet wound healed without the least trouble in a few days, but a remarkable series of changes took place within the eye as the result of the concussion. Inflammation of the ruptured choroid supervened in the yellow spot region and, in spite of vigorous treatment, it ended in a central detachment of the retina and a serious and permanent defect in the very centre of the field of vision. It was instructive to watch the downward progress of events within the eye until the climax was reached, and the observer could not fail to be impressed by the great difference in the reparative powers possessed by the various anatomical structures.

Cases to illustrate my subject could be multiplied in definitely. Note-books of ophthalmic work are full of instances in which ocular conditions have had to be traced back to states of health which he strictly within the domain of the general practitioner, and the treatment in many instances resolves itself into that which is needed for the general bodily state. The specialist, so-called, simply fills the gap necessitated by an incomplete professional curriculum, but the process, though it has its pleasures, is not without its inconveniences. It is hardly comfortable for any party concerned when a patient who has casually drawn the attention of his medical attendant to a cataract and been referred to a specialist because eye diseases are out of his province has to be returned to the care of his own medical man because he is found to be suffering from diabetes. Yet these things do happen and will from time to time repeat themselves, until ophthalmic medicine and surgery become essential parts of medical and surgical work. Practitioners with but little acquaintance with ophthalmic literature will perhaps feel a difficulty in knowing where to turn for information presented in the form that is most useful to them. Text-books cannot be arranged to suit all parties, and the association of ocular conditions with various forms of disease or injury does not receive the attention it deserves in those which most men have at their disposal. Thus in two popular text-books on Diseases of the

Eye I can find no reference in the indices to pregnancy, and the notice taken of it in the text is almost as meagre, and yet the ophthalmic conditions connected with pregnancy furnished Mr. Power with material for a long and interesting paper—"Diseases of the Eye occurring in connexion with Pregnancy"—some twelve years ago. The best text-book, after all, is the eye itself. Systematic and regular observation of the things that are written there will furnish much fruit. Books are the outcome simply of clinical observation, experience and thought, and any man who will take the pains to acquire the elementary ophthalmic knowledge necessary for accurate observation can by careful work store up many facts. Sir George Humphry reminds us that facts may be regarded as pegs whereon thoughts may be hung, and thoughts as the rivets whereby the pegs are fastened.

Park square Leeds.

LOCAL DEPLETION.

By JOHN BOYD, M.D. EDIN.

IN THE LANCET of July 30th, 1892, there is related the deplorable case of the Commendatore Giordani at Florence, who on the evening of the 14th, whilst walking in Vallombrosa, memorable from the reference by Milton, fell into a pit at the foot of an incline and was there assailed by a myriad of leeches ("litteralmente assalito da una miriade di sanguisughe"). On being rescued and removed to the hotel he died on the third day from the loss of blood in an enfeebled constitution.

In vol. xxiv., p. 539, of the *Edinburgh Medical Journal* there is a notice of a communication in Italian sent to me by Professor Sotà y Lastra of Seville, entitled "*Una Mignatta estratta dalla Laringe quindici giorni dopo che vi era penetrata*" ("A Leech extracted from the Larynx fifteen days after it had entered therein"). It states that on Aug. 3rd a man aged sixty four, tall and robust, presented himself at the Polyclinic of Seville complaining of blood freely issuing from his mouth for fifteen days past. At the beginning of that period, being thirsty, he had drunk copiously of cold water from a ditch and immediately after felt constriction in the throat, respiration becoming impeded and voice extinct. After this he was obliged to cough continuously owing to tickling in the larynx. Several hours afterwards blood commenced to issue from the mouth, a little at first, but abundantly later on. He was able to swallow solids and fluids easily. He slept badly, accessions of suffocation awakening him continually. In a few days he became visibly thinner, losing strength and colour. On examination Dr. Sotà found the temperature normal, pulse rapid and weak, respiration painfully strident and quickened; thorax dilated fully, vocal vibration normal, as also percussion and auscultation, though the latter was impeded by the laryngeal stridor. Having introduced the laryngoscopic speculum he discovered a leech fastened to a reddish elevation of the epiglottis immediately above the anterior commissure of the cords, extending upwards and backwards, while the caudal extremity was fixed in the right arytenoid. After five attempts necessitated by the restlessness of the patient, Professor Sotà succeeded in extracting the annelide. This was followed by an immediate and complete recovery.

From the same author I have just now received a history of a case ("*Sanguignuel adherida al nivel del Cuarto Anillo de la Traquea*")—"A Leech attached to the Fourth Ring of the Trachea"—originating in a similar subject from the same cause. But here there was neither dysphonia nor dysphagia, and after many efforts Professor Sotà observed vermicular movements in a dark mass like coagulated blood at the anterior and middle portion of the trachea. By means of a ball of cotton moistened with a solution of chlorhydrate of cocaine of 10 per 100 applied to the locality and thereby anaesthetised he managed by the laryngeal forceps to extract a small leech 22 millimetres in length and 3 in breadth after difficulties in the achievement that seemed almost insuperable. As an offset to these instances of pernicious local depletion I may refer to one of a contrary character in the case of the poet-statesman, M. de Lamartine, who in his "*Pictures of the East*," relates that when resting at Yenikeni, a village in South Bulgaria, he was seized with "*fièvre et une inflammation du sangue*," probably pneu-

monia, which confined him for twenty days, at first without medical aid. But Madame de Lamartine was equal to the emergency. She sent out the Bulgarians to the marshes in the plain to look for leeches, which they discovered. Sixty of these annelides, applied to the chest and the temples, diminished the danger. The patient recovered consciousness on the sixth day of the fever. The danger already passed over, his friends at Adrianople having heard of his malady came to visit him with all sorts of remedies, leaving him in charge of a young Macedonian physician (educated at Semlin in Hungary) who spoke Latin, but his talents were unnecessary, the affectionate presence of mind and energetic resolution of the lady having supplied all that was required, the doctor's pleasant society being all that aided to complete the cure. While gratified by the immense advance in pathology since the date of the foregoing history, it may be questioned if there has been a corresponding progress in therapeutics all along the line—indeed, if there may not have been a retrogression in one important particular I allude to the almost total disuse of topical as well as general depletion in modern practice. We have been so concerned with the microscopic investigation of the blood plasma, the number and behaviour of the red and white corpuscles, that we have undervalued to a great extent the importance of the macroscopic indications of dolor, tumor, calor, rubor. Yet in most cases of inflammation near the surface there they are and, unlike the hero's spouse, may not be explained away.

The pulmonic circulation was first clearly described in his "Restitutio Christianismi" in 1553 by the irreproachable, ill-starred genius Migue! Serreto y Revés de Villanova, and if he had not then been judiciously murdered by Calvin at Geneva he most undoubtedly would have completely anticipated Harvey by a full century. From a pathological point of view the minor or pulmonic may be esteemed paramount to the general circulation. The blood is duly oxygenated in the capillaries of the air cells, but it is imbued with more than oxygen. Every inspiration imbibes whatever may be floating in the aerial ocean in which we move—sulphuretted hydrogen, carbonic oxides, the microbes and germs that are present in the aerial strata with which we are brought in contact—all these are sent into the left heart cavities, irritating the endothelium and being propelled on to the remotest capillaries. In the vast agglomerations of human beings now concentrated in cities every item of which helps to poison his or her neighbours, and the morbid results show clearly of how much greater sanitary consequence is what we breathe than what we eat or drink, apart from specific contagion in our water or dietary.

The arterial blood, thus contaminated in its progress through the capillaries when meeting with local lesions, cellular or vascular local degenerations, accumulates and stays. Considering that our system is so much made up of vascular network the derangements from local congestion and stasis are easily explicable and the obvious relief from capillary drainage from leeching or cupping is as comprehensible. It appears to me that we have laid too much stress on the nervous system in our endeavours to relieve the suffering arising from inflammatory lesions and overlooked the soothing influence of unloading the affected tissues. Take, for example, the case of perityphlitis—a malady sufficiently tangible and in which it might be reasonably expected that the cutaneous circulation would be quite accessible for the relief of the congestion around the ileo-cæcal valve and appendix. In a modern book of reference we find rest, poultices and fomentations enjoined in the treatment of this disease. I have seen instances of such treatment followed by lingering distress, ending in death at the end of the second month, even though opium had been largely given. This drug to many seems to be the catholon for most abdominal maladies. Very different was the issue when leeches had been freely and vigorously applied. Among our junior brethren there appears to prevail a vague fear of the depressing enfeebling effect of local depletion. A leech may extract from a drachm to even three drachms of blood itself and the fomentations or poultices subsequently fully as much more, but when we take into account the entire mass of blood in the average human body we readily perceive the futility of this objection. In Hermann's 'Grundriss der Physiologie des Menschen' (Blutmenge) Bischoff's estimate is one-thirteenth of the weight of the body. Welcker gives it at one-nineteenth in the newly born. The derivation of all abstracted by an ordinary application of these annelides need not give rise to any serious apprehension on this score. Pain is the most debilitating of all influences, and where pain is there is effusion. To diminish the latter is in the

great majority of cases the best means of abolishing the former, hence the wisdom of the frequent injunction of our predecessors—"Put on so many leeches on the sore part."

Gowanlee Slamannan, N.B.

ON MIGRAINE

BY ALEXANDER WALLACE, M.D. OXON &c.,
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I SUPPOSE that after a personal experience of over ^{sixty} years of this unsocial malady I might, perhaps better than others, have somewhat of use to say concerning it. I call it an "unsocial malady," because it often cruelly debars the sufferer from moving in society and enjoying family and friendly intercourse. I will relate my own experiences. My diathesis is gouty, though I have never had an acute attack, I have nodules in my ears and have often been troubled with eczema and pharyngeal irritation.

Personal experiences—Migraine with me began early in life, I well remember when at school not infrequently experiencing severe headache followed by vomiting—one instance will never be forgotten. When about ten or eleven years old, one Saturday afternoon, I was unusually lucky at cricket, scoring over 100 runs off my own bat and coming back correspondingly hungry and tired. The next day I woke with a headache and, dimly forecasting the result, petitioned to be let off "church." "No, I must go," was the edict, so during the Litany, feeling bad, I sought my hat (in those days we always went to church in tall hats). Some delay arose in getting me one (not my own), so before I could get out vomiting took place, and out of respect to the sacred edifice I used the hat for a receptacle. How I got back, miserable, I forget, but next day I got a thrashing from the boy whose hat I had thus defiled, and at the end of the term a new hat was debited to my school account. Another sad experience, later in life, I may record. In my early professional career I was invited for the first (and only) time to the dinner table of a distinguished judge. I had dined out the day before with a relative and in consequence woke in the morning with a slight headache, I nursed myself all day, hoping to recover, but in vain. I had hardly got through my soup, sitting at my hostess's right hand, when the usual result followed and I had to beat a precipitate and ignominious retreat. Taught by bitter experience, many and many a pleasant social evening have I relinquished knowing well how dangerous it was for me to go. In my case migraine has certainly been a miserably unsocial and painful drawback. These attacks continued more or less frequently during my youth and during a ten years' residence in London, often prostrating me at a time when I wished to be at work or to be at my best in society. After settling in Colchester, thirty years ago, they at first remitted somewhat, but soon got so frequent as to come on regularly every Saturday. I then consulted the late Dr. Brinton, who advised me to try Aix la Chapelle or the top of a Welsh mountain. I went, however, to Harrogate and after a three weeks' sojourn came home in renewed health, though I was told that on my arrival at the hotel the other visitors pronounced me to be a promising candidate for the cemetery. For the next ten years I paid an annual visit to Harrogate, conforming to the customs of the place and deriving great benefit therefrom, until at length I learnt from my Harrogate experiences how to mitigate the virulence of my attacks and at last how to obviate them almost altogether. Now, though I go elsewhere for my holiday, I rarely suffer from an attack, but, in order to attain this end I have to forego many social enjoyable evenings.

Description of an attack.—In my case the advent of a migraine is generally recognised on awaking by a desire to lie still and avoid all mental and bodily exertion, the head is hot, feels heavy and dull, if not already aching the eyes lack lustre, the tongue is slightly coated, there is anorexia and some thirst, the urine is frequently pale and of light specific gravity. During the day the necessary work is done with much effort, fatigue and irritability of temper, the headache increases and about 4 or 6 P.M. compels me to lie down and cease from all further effort, later on the headache becomes more intense and throbbing and culminates in a copious acid vomit, after which relief and sleep come, and in the morning I arise free from headache but with a tired strained feeling and some muscular soreness. The temperature during the attack is

abnormal but rises after the vomiting, with free skin action and discharge of orange-coloured lithates in the urine, the contents of the stomach seem to be retained for hours and get rid of only by vomit.

Relief—Now the lessons learnt from many attacks have taught me that a severe bout of migraine is relieved most certainly and completely by the concussion of vomiting, the stomach being thus emptied of its contents, circulation and absorption being restored. I have cut short (when absolutely necessary) the attack by an early hypodermic injection of apomorphia, but the remedy with the attendant depression and vomiting is as bad as the disease.

Treatment of an attack—The severity of the headache is in my experience directly proportionate to the amount of the acidity of the gastric contents and it can be greatly lessened by the free imbibition of alkaline draughts—salty volatile, soda, ginger and peppermint with spirit of chloroform in a tumbler of cold water being with me a favourite and very effective drink. Two or three tumblers of this will almost certainly relieve the headache. Solid food is undesirable and rarely taken. Abstinence except from drink is the rule during the day. When vomiting is over, the exhibition of an alkaline drink such as I have mentioned is very agreeable to neutralise the stomach acidity, and then a few grains of blue pill, compound colocynth and extract of hyoseyamus will induce sleep and act like a charm.

Alkaline drinks—The exhibition of alkaline drinks may be pushed further, and if used earlier in the day may relieve entirely the headache and prevent vomiting. I see in my out-patient room many cases of migraine, some severe ones, and I have often found that copious draughts of water during the day or night, a tumblerful at a time taken frequently up to two or three quarts in amount, prove very useful in mitigating the headache and aborting the attack. The rationale of its action seems to be that it dilutes, neutralises, and washes onwards the acid contents of the stomach, promoting intestinal action.

Prevention—As prevention is better than cure, I am now able after years of suffering to detect the early symptoms of a coming attack, and to commence treatment twelve or twenty-four hours in advance, so as to abort the migraine altogether. (See end of paper.) I have been able also to trace in myself the numerous faults either of habit or environment which produce migrainous headache, and so, recognising the exciting causes, have been able so to adapt my mode of life as now to escape almost altogether the dreaded evil.

Exciting causes—First, then, in my case and in many others which I have treated I lay down the proposition that a migraine is due to defective or insufficient excretion, partly of the liver but mainly of the kidney. Migrainous patients will present a muddy, sallow complexion, a dull eye, yellowish conjunctivæ and a yellowish tint of skin. On inquiry you learn that the bowels are constive, not acting daily, that though the urine after an attack is high in colour and loaded with lithates yet before and during the attack it is pale and limpid and, if you examine it, of low specific gravity. You will find that just before the attack your patients are inert and lazy, probably complain of backache and are indisposed to mental and bodily exertion, they will tell you that after the attack they are more cheerful and bright, can enjoy their food and social intercourse and feel brisk for work, whereas just before the attack they are unduly irritable, short-tempered and nothing goes right with them. You will probably also on close inquiry get at a history of stultence and cruciation suggestive of liver congestion. All these little matters are to me now well recognised symptoms of the coming storm yet for a long time they passed unnoticed, but thus forewarned I am able, as I shall show later on, either to minimise the evil or avert it altogether. Now, regarding migraine as produced by defective or insufficient excretion, chiefly of the kidney, two quite opposite conditions may be at work to excite an attack. (1) Where the abdominal and eliminative organs are less able than usual to perform their work and (2) where a greater onus is thrown on these organs than they can for the time being perform. Under Cause 1 may be classed check of skin action, exposure to cold, heated and vitiated atmospheres, tobacco (in some), alcohol, malt liquors, drugs, tea and other articles of food which act as economisers, lessening excretion, an insufficient imbibition of fluid, fatigue, nervous prostration &c. I have frequently noticed in my own case that after exposure to cold the urine is of light colour and of low specific gravity, and that a slight headache has supervened. Alcohol and malt liquors I have been unable to take for years, except in very small quantities, and that only occasionally. Any

indulgence in this respect is invariably followed by headache. Tea is notoriously avoided by sufferers from migraine. I have noticed that in the month of November, when the atmosphere is loaded with damp, is anticyclonic and more or less impure from fog and smoke, with a low barometer, migraines are unusually prevalent.

It is hardly necessary to point out here that a scanty daily imbibition of fluid leads to insufficient intestinal and kidney action, inducing constipation and generally defective secretion and excretion, and is a common cause of anæmia. The converse of this is beautifully shown by the treatment carried out at Harrogate and similar Spas, where under the influence of water containing more or less sulphate of soda, sulphate of magnesium and chloride of sodium, exhibited externally by baths and internally by drinks, free excretion is promoted. The skin becomes clear and rosy, the evacuations are loose and free, the temper changes from irritable to joyous and the patient returns home rejuvenated.

Under Cause 2 may be mentioned over exertion of body or mind, over eating (a common cause), indulgence in saccharine and fatty foods, specially in jams, rich soups and stews, pastry and the like, interference with the digestive powers (which are generally weak) by irregular or too prolonged meals (our present dinners now often last three hours) or indigestible food, such as pork, salt meats &c., insufficient mastication, mental or bodily exercise immediately following a principal meal, costiveness or constipation &c. These and similar causes interfering with the proper assimilation and excretion will in the case of sufferers from migraine prove exciting causes of an attack. It follows therefore that an individual so disposed should modify his environment and faulty habits (if any), and should lay down, and confine himself within, certain limits beyond which he dare not pass without risking an attack.

Prevention—Prevention of migraine is the result of a due and well balanced performance of assimilation and excretion, to maintain which a proper healthy exercise of mind and body, a careful dietary, regular hours and due intestinal and kidney excretion are necessary. To go more into detail. "In the sweat of the brow shall the bread be eaten" is very true of the sufferer from migraine. Enervating till perspiration ensues followed by a bath or good rub down and a change of dry clothing, promotes a healthy appetite and improves digestion. Great attention to this was paid by the Romans in the time of their emperors, and nowadays the social game of lawn tennis supplies an admirable and pleasant exercise without undue fatigue. Then as regards excretion. It is said that when the mountain did not go to Mahomet he went to the mountain. If we cannot go to Harrogate or Aix la Chapelle, a tumbler or two of hot water while dressing in the morning containing sufficient mineral salts (including chloride of sodium) to produce a free loose stool after breakfast will help kidney action and not interfere with the digestion. Different aperient waters suit different individuals. I mention chloride of sodium advisedly as a necessary constituent because it induces thirst and thus paves the way to copious daily drinks, so that from three to four pints of fluid may be taken pleasantly during the day. I have tried Turkish baths, but they did not suit me and are far less pleasant than lawn tennis, though to some they are very useful. As to diet, plenty of fresh food, fresh fruit, fresh vegetables, fresh butter, fresh meat (in moderation) and milk are desirable, no twice cooked dishes, no salted or pickled food, no jam tarts or treacle. In other words, while promoting excretion care must be taken to supply easily assimilable material. Above all eat sparingly and rise from the table still hungry rather than eat to repletion, a difficult habit for the young to cultivate.

To abort an attack—If an attack be apprehended—and attacks will threaten from time to time—provided the warnings are recognised the day before, treatment should be at once commenced. The dietary should be spare, light and contain much fluid, nothing should be taken after 7 P.M. except a drink of milk and soda water and a biscuit, the before mentioned pill should be taken at bedtime and an alkaline draught in the morning while dressing, with the addition of iodide of potassium or salicylate of soda in a tumblerful of hot water. This will in all probability avert the attack. Migraines in the female are of a less robust character than in the male sex, as might be supposed from their different habits and environment, their generally anæmic condition and proneness to reflex excitation, but the exciting causes underlying an attack are much the same and may generally be detected. Scanty drinking and abuse of the temper are frequent causes, while

nausea and constipation claim many victims. Migraines are generally more prevalent among women than among men, and slight attacks which are very common, of an irritable tendency to interfere or trouble of patients.

I trust that these remarks may help my fellow sufferers to escape from the fetters of this dreadful malady.

S. J. HARRISON, O'Connell.

SEVERE OCCIPITAL HEADACHE SUBCUTANEOUS INJECTION OF MORPHINE RECOVERY.

By WILLIAM H. DAY, M.D. M.R.C.P. LOND.

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ONE of the most severe cases of occipital headache of a very strange nature that I have ever seen came under my notice in May 1892. A married lady sixty-two years of age and the mother of six children, was much distressed in health from anxiety and care. She had been for twenty-five years a sufferer from nervous headache, treated in a great measure to anemia from excess of the treatment in early married life and to numerous attacks of menorrhagia. Until the summer of 1891 the pain of the commencement of an attack had generally been frontal, extending to the vertex accompanied with great nausea, vomiting and loss of food. After a period of rest and education the frontal pain very gradually followed by severe neuralgia in the course of the fifth nerve especially the supraorbital and supra-temple branches on one or the other side. The symptoms then branched into the nerves affected as is often the case. Occasionally the ophthalmic nerve with its branches to the nasal gland and eye was specially affected when the ophthalmic branch was cut and the eye would run down the cheek. On other occasions the nasal nerve would be involved, and a strong pain would extend down one side of the nose. Sometimes pain in the temporal and occipital branches of the supra-temple nerve were involved the pain would be very severe, often filling half of the temporal front, owing to transference of sensation from communication with the deep temporal nerve. On other occasions the parietal nerve swinging from the supra-temple would be affected, and then the patient knew that headache was impending from a peculiar sensation on one side of the temple and a free flow of saliva. Sometimes she was able to promenade on a cushion from a couch a distance of twenty miles. Six months previous to the occipital seizure the patient should have had a hysterectomy, she was confined on occasion, she grew pale and weak, and on walking upstairs experienced some breathlessness, although she had no heart and lungs were sound. The attack began at 3 A.M. on May 10th 1892 with a feeling of weight on the top of the head. Soon the patient could not remain in bed, although she was at a time when she would place her arm and hand pressure on the vertex of the crown. She remained in bed at frequent intervals, coming up to the window for air. The pain gradually increased in severity and the patient was exhausted and restless from continuing to sleep on the following day (the 11th) at 2 P.M. a quarter of a grain of morphine was injected into the left occipital nerve. In a minute she was easy and in five minutes fell into a quiet sleep, when continued on and off for several nights. On the 15th occipital headache came on again and after using for forty-eight hours the relief was obtained by taking five-grain doses of quinine with ten minims of spirit of chloroform every four hours. Doses and expectorant were taken freely. On the 18th there was more pain and the patient was worn out from suffering and sleeplessness. The pulse was weak, the pulse was weak and when the eyes were wide awake and under the head the face was deadly white and the angles of the mouth were drawn down, giving the patient a most worn and distressed expression. Quinine in doses of five grains, rectified chloroform, spirit of chloroform and eggs (a diet) than formerly and a remedy relieved the (first seizure) now failed to

afford any relief. Bromides neither produced sleep nor allayed the pain. As the patient was going from bed to worse and as sleep was essential after four nights and days of acute suffering, it was decided to again have recourse to the hypodermic injection of morphine (gr. 1/2). This was carried out as before and in half a minute was followed by cessation of pain and tranquil sleep, at intervals for the ensuing twenty-four hours. When the pain was at its height before the morphine was used, firm pressure with the open hand over the seat of pain afforded some relief and a lot of warm sea also mitigated it. A mustard emulsion to the neck, or a stimulating liniment of chloroform and alcohol gave temporary relief when the pain was not very acute. The pain was mainly referred to the course of the great occipital nerve where it crosses the trapezius muscle and over its cranial distribution as far as the vertex. Sometimes pain was also experienced over the upper and posterior aspect of the ear. In addition to the symptoms described, after the occipital pain was relieved, the patient experienced a painful sensation in the movement of the lower and upper part of the neck. So numerous are the manifestations and extension of the occipital nerve with its branches of other nerves especially the trigeminal and ascending branches of the cervical plexus, in this situation that they do not explain how the pain may extend from the crown down to the mouth, teeth and lower jaw. No treatment was available to cure this, every stump having been removed for years before the seizure and morphine made good by artificial means. On the 20th the patient passed a restless and wakeful night, complaining of pain in the back of the head, but after taking the powerful nature of accurate and applying a stimulating liniment to the neck the sleep at intervals. On the 22nd it was removed, she had passed a better night and the pain was of a sage or character, but not extended to the cervical nerves, making it rather difficult to turn the head and open the mouth freely. She took food well. On the following day the pain had extended down the neck, arm and the attempt to lift anything with the right hand, which was very weak, immediately brought on a return of the pain. She also complained of stiffness of the neck, back of the wrist. As soon as the pain was due to come with the next to a quiet country place in a pure atmosphere and had two months of complete rest, seldom getting up till midday and returning to bed at an early hour. On returning to town the next morning water in the "cold" form only after lunch and has continued doing so up to the present time. There has been no return of acute pain since, and the patient is now healthier than she has been for the last two years.

Remarks.—The effect of the subcutaneous injection of morphine in this case, as in many similar cases, is to tranquillise the patient at once and speedily to relieve the pain, all other remedies had failed one after another. On no and on many other previous occasions they proved utterly worthless. This mode of applying morphine removes the true and nature of the pain, brings it into the surface and removes the excessive excitation and collapse which are manifestly present after the seizure has continued many days. When the effect of the morphine has passed off the system is almost nervous and the quantity of stimulant which would be certain to induce a headache, now keeps it away. When morphine is employed for the first time subcutaneously a small dose should be given, as some persons are peculiarly affected by it. It sometimes induces very serious symptoms but I have not observed any in my own experience. Such cases are, however, recorded from time to time. Dr. Smith of Capetown, Cape of Good Hope, sent to me a married lady thirty-nine years of age in August 1892 suffering from severe neuralgic headache. He and other medical men and tried many remedies without avail and amongst them the hypodermic injection of morphine and chloroform, which caused frightful effects and other alarming symptoms without bringing relief. From the many disastrous consequences that have followed, as they certainly will follow, the repeated use of morphine subcutaneously employed we cannot be too cautious in very much resorting to it. It is only in such a severe case of headache as I have related, when pain and sleeplessness are wearing out the patient that its use is justified. When employed with care and at long intervals, it is not likely to cause clinically or physically the abnormal structure of the body and nervous system, but if resorted to at every severe paroxysm of headache or whenever the patient clamors for it, he will be gradually brought into a possible state of mind and body.

On some previous occasions in severe attacks of occipital headache I have found that a grain of quinine with ten minims of rectified chloroform and eggs (a diet) than formerly and a remedy relieved the (first seizure) now failed to

subnormal but rises after the vomiting, with free skin action and discharge of orange-coloured lithates in the urine, the contents of the stomach seem to be retained for hours and get rid of only by vomit.

Relief—Now the lessons learnt from many attacks have taught me that a severe bout of migraine is relieved most certainly and completely by the concussion of vomiting, the stomach being thus emptied of its contents, circulation and absorption being restored. I have cut short (when absolutely necessary) the attack by an early hypodermic injection of apomorphia, but the remedy with the attendant depression and vomiting is as bad as the disease.

Treatment of an attack—The severity of the headache is in my experience directly proportionate to the amount of the acidity of the gastric contents and it can be greatly lessened by the free imbibition of alkaline draughts—sal volatile, soda, ginger and peppermint with spirit of chloroform in a tumbler of cold water being with me a favourite and very effective drink. Two or three tumblers of this will almost certainly relieve the headache. Solid food is undesirable and rarely taken. Abstinence except from drink is the rule during the day. When vomiting is over, the exhibition of an alkaline drink such as I have mentioned is very agreeable to neutralise the stomach acidity, and then a few grains of blue pill, compound colocyth and extract of hyoseyamus will induce sleep and not like a charm.

Alkaline drinks—The exhibition of alkaline drinks may be pushed further, and if used earlier in the day may relieve entirely the headache and prevent vomiting. I see in my out-patient room many cases of migraine, some severe ones, and I have often found that copious draughts of water during the day or night, a tumblerful at a time taken frequently up to two or three quarts in amount, prove very useful in mitigating the headache and aborting the attack. The rationale of its action seems to be that it dilutes, neutralises and washes onwards the acid contents of the stomach, promoting intestinal action.

Prevention—As prevention is better than cure, I am now able after years of suffering to detect the early symptoms of a coming attack, and to commence treatment twelve or twenty-four hours in advance, so as to abort the migraine altogether. (See end of paper.) I have been able also to trace in myself the numerous faults either of habit or environment which produce migrainous headache, and so, recognising the exciting causes, have been able so to adapt my mode of life as now to escape almost altogether the dreaded evil.

Exciting causes—First, then, in my case and in many others which I have treated I lay down the proposition that a migraine is due to defective or insufficient excretion, partly of the liver but mainly of the kidney.

Migrainous patients will present a muddy sallow complexion, a dull eye, yellowish conjunctivæ and a yellowish tint of skin. On inquiry you learn that the bowels are constive, not acting daily, that though the urine after an attack is high in colour and loaded with lithates yet before and during the attack it is pale and limpid and, if you examine it, of low specific gravity. You will find that just before the attack your patients are inert and lazy, probably complain of backache and are indisposed to mental and bodily exertion, they will tell you that after the attack they are more cheerful and bright, can enjoy their food and social intercourse and feel brisk for work, whereas just before the attack they are unduly irritable, short-tempered and nothing goes right with them. You will probably also on close inquiry get at a history of stultence and eructation suggestive of liver congestion. All these little matters are to me now well recognised symptoms of the coming storm yet for a long time they passed unnoticed, but thus forewarned I am able, as I shall show later on, either to minimise the evil or avert it altogether. Now, regarding migraine as produced by defective or insufficient excretion, chiefly of the kidney, two quite opposite conditions may be at work to excite an attack. (1) Where the abdominal and eliminating organs are less able than usual to perform their work and (2) where a greater onus is thrown on these organs than they can for the time being perform. Under Cause 1 may be classed check of skin action, exposure to cold, heated and vitiated atmospheres, tobacco (in some), alcohol, malt liquors, drugs, tea and other articles of food which act as economisers, lessening excretion, an insufficient imbibition of fluid, fatigue, nervous prostration &c. I have frequently noticed in my own case that after exposure to cold the urine is of light colour and of low specific gravity, and that a slight headache has supervened. Alcohol and malt liquors I have been unable to take for years, except in very small quantities and that only occasionally. Any

indulgence in this respect is invariably followed by headache. Tea is notoriously avoided by sufferers from migraine. I have noticed that in the month of November, when the atmosphere is loaded with damp, is anticyclonic and more or less impure from fog and smoke, with a low barometer, migraines are unusually prevalent.

It is hardly necessary to point out here that a scanty daily imbibition of fluid leads to insufficient intestinal and kidney action, inducing constipation and generally defective secretion and excretion, and is a common cause of anemia. The converse of this is beautifully shown by the treatment carried out at Harrogate and similar Spas, where under the influence of water containing more or less sulphate of soda, sulphate of magnesium and chloride of sodium, exhibited externally by baths and internally by drinks, free excretion is promoted. The skin becomes clear and rosy, the evacuations are loose and free, the temper changes from irritable to joyous and the patient returns home rejuvenated.

Under Cause 2 may be mentioned over-exertion of body or mind, over eating (a common cause), indulgence in saccharine and fatty foods, specially in jams, rich soups and stews, pastry and the like, interference with the digestive powers (which are generally weak) by irregular or too prolonged meals (our present dinners now often last three hours) or indigestible food, such as pork, salt meats &c., insufficient mastication, mental or bodily exercise immediately following a principal meal, costiveness or constipation &c. These and similar causes interfering with the proper assimilation and excretion will in the case of sufferers from migraine prove exciting causes of an attack. It follows therefore that an individual so disposed should modify his environment and faulty habits (if any), and should lay down, and confine himself within, certain limits beyond which he dare not pass without risking an attack.

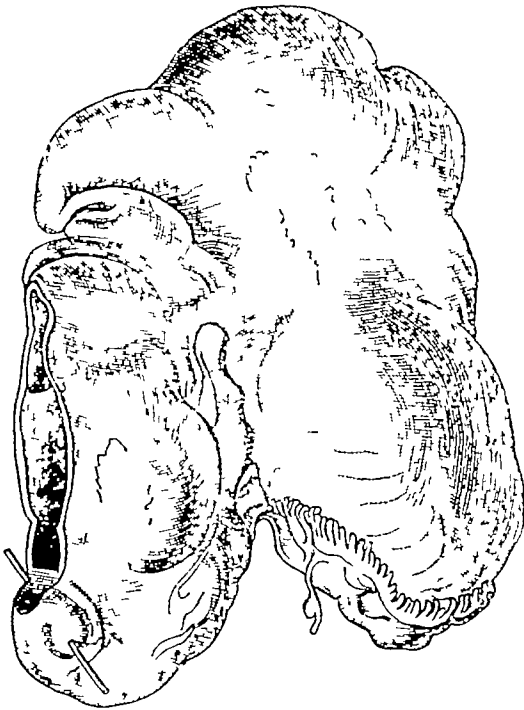
Prevention—Prevention of migraine is the result of a due and well balanced performance of assimilation and excretion, to maintain which a proper healthy exercise of mind and body, a careful dietary, regular hours and due intestinal and kidney excretion are necessary. To go more into detail "In the sweat of the brow shall the bread be eaten" is very true of the sufferer from migraine. Energising till perspiration ensues, followed by a bath or good rub down and a change of dry clothing promotes a healthy appetite and improves digestion. Great attention to this was paid by the Romans in the time of their emperors, and nowadays the social game of lawn tennis supplies an admirable and pleasant exercise without undue fatigue. Then as regards excretion. It is said that when the mountain did not go to Mahomet he went to the mountain. If we cannot go to Harrogate or Aix la Chapelle, a tumbler or two of hot water while dressing in the morning containing sufficient mineral salts (including chloride of sodium) to produce a free loose stool after breakfast will help kidney action and not interfere with the digestion. Different aperient waters suit different individuals. I mention chloride of sodium advisedly as a necessary constituent because it induces thirst and thus paves the way to copious daily drinks, so that from three to four pints of fluid may be taken pleasantly during the day. I have tried Turkish baths, but they did not suit me and are far less pleasant than lawn tennis, though to some they are very useful. As to diet, plenty of fresh food, fresh fruit, fresh vegetables, fresh butter, fresh meat (in moderation) and milk are desirable, no twice cooked dishes, no salted or pickled food, no jam tarts or treacle. In other words, while promoting excretion care must be taken to supply easily assimilable material. Above all eat sparingly and rise from the table still hungry rather than eat to repletion, a difficult habit for the young to cultivate.

To abort an attack—If an attack be apprehended—and attacks will threaten from time to time—provided the warnings are recognised the day before, treatment should be at once commenced. The dietary should be spare, light and contain much fluid, nothing should be taken after 7 P.M. except a drink of milk and soda water and a biscuit, the before-mentioned pill should be taken at bedtime and an alkaline draught in the morning while dressing, with the addition of iodide of potassium or salicylate of soda in a tumblerful of hot water. This will in all probability avert the attack. Migraines in the female are of a less robust character than in the male sex, as might be supposed from their different habits and environment, their generally anemic condition and proneness to reflex excitation, but the exciting causes underlying an attack are much the same and may generally be detected. Scanty drinking and abuse of the temper are frequent causes, while

soon, had no sickness to speak of and made a rapid and excellent recovery. The history of this case, taken with the matted condition of the intestines and the adhesion of the tubes to them and to the pelvic organs, distinctly points to the attack of abdominal inflammation as the starting point of the tubal disease. I quite expected to find the contents of both tubes offensive, but on opening them after removal the pus that escaped was creamy and not in the least degree fetid. It is somewhat remarkable that a woman with two such tumours should have enjoyed good health and have been able to ride and drive up to the time of her operation without any ill effects. Had the tubes burst during such violent exercise the result would have been disastrous, if not actually fatal, within a few hours.

This is the third consecutive case in which I have succeeded in removing adherent and distended tubes unruptured, and during the last ten years I have had many opportunities of assisting at operations for the removal of diseased and dilated tubes. It is the practice of some surgeons to aspirate or use a small trocar in such cases, and when they have emptied the tubes they then proceed to remove them. Speaking from

FIG 2.



A distended Fallopian tube, doubled upon itself

my own experience I prefer, if possible, to remove the tubes unemptied and unruptured, for once the contents are with drawn it seems to me that the operator loses his landmarks and the difficulties of the operation are increased tenfold. In the cases where I have seen intestines torn or pelvic organs injured I have noticed that the injury invariably occurred subsequently to the emptying or rupturing of the dilated tube. When operating on such like cases I endeavour to use the pulp of my fingers as much as possible, working them as one would a sponge when dealing with intestinal adhesions, and thus keeping the finger nails away from the tubes. This method is of course tedious and cannot be carried out in every case, but it is undoubtedly safe and in my opinion worthy of a trial. I am convinced that irremediable injury may be inflicted on the intestines and on the pelvic organs by injudicious scraping and by digging with the finger nails into the depths of the pelvis where the parts are completely hidden from sight.

I have much pleasure in acknowledging the valuable assistance rendered by Drs Copeland and Fawson Lee during

the operation. My thanks are also due to my friend Mr Stormont Murray for his skilful administration of the anæsthetic and to Mr J Bland Sutton, who very kindly undertook to examine and report on the specimens, which were exhibited at the February meeting of the Obstetrical Society. His report is as follows: "The cysts are enormously distended Fallopian tubes. Sections prepared from them exhibit a thin layer of muscle tissue lined internally with granulation tissue. There are no traces of epithelium and the mucous membrane has completely disappeared. Large dilated tubes of this character differ in many points from the common forms of pyosalpinx secondary to septic endometritis and gonorrhœa. I have only seen two other examples similar to these specimens, and until more is known of their pathology they should stand in a separate class." The illustrations were executed by Mr Henry R. W. Lewin.

N.B.—Dr Fawson Lee informs me by letter dated October, 1892, that the patient is now quite strong and well. She has gained flesh and is in excellent spirits. There has been no complaint of dyspareunia since the operation. A regular catamenial period occurred in March and has recurred about every month, much the same in quantity, but varying somewhat as to time and unattended by any pain.

Brook street, W.

A Mirror OF

HOSPITAL PRACTICE, BRITISH AND FOREIGN

Nulla autem est alia pro certo nocendi via, nisi quamplurimas et morborum et dissectionum historias tum aliorum tum proprias collectas habere et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.* lib. iv. Proœmium

ST THOMAS'S HOSPITAL.

NOTES OF A FATAL CASE OF STRYCHNINE POISONING, REMARKS

(Under the care of Dr JOHN HARLEY.)

FATAL cases of poisoning by strychnine in which the patient lives long enough for the symptoms and course of events to be carefully noted being of rare occurrence, the following notes taken by Dr Cuthbert Wyman, formerly house physician to St. Thomas's Hospital, to whom we are indebted for them, will be found of interest. We commented in THE LANCET some months ago¹ on the fact that strychnine had been used somewhat frequently during the last few years for the purposes both of suicide and homicide, and pointed out the ease with which the poison could be obtained in various compounds and the danger which this was to the public health. There was another aspect we dwelt upon and which we considered of importance—that was the possibility of mistaking the symptoms for those produced by 'natural causes.' While the symptoms of strychnine poisoning are well known they vary very much according to surrounding circumstances. When the dose has been large the tetanic spasms will be well marked, but when a minimum fatal dose has been given these will be modified into a species of convulsions which may be regarded as unconnected with poison. Hence the importance of not only observing the symptoms of any sudden attack of convulsions very carefully, but also of duly weighing all the surrounding circumstances, the previous taking of food or medicine, the absence of any former similar attack and the appearance and manner of those around. It is curious that the rapidity with which the symptoms of poisoning developed in these cases varied so much. The patients were young women of about the same age, and the contents of the stomach in each and the amount of poison taken were presumably similar, yet one died almost immediately and the other lived for about five hours and a half. In 1889 we published notes of a case under the care of Mr H. C. W. Jones,² where recovery followed treatment for strychnine poison, the quantity swallowed being estimated at

¹ THE LANCET, vol. i. 1892, p. 1376.

² *Ibid.*, vol. i. 1889, p. 168.

The severe nervous and neuralgic types of headache in the case in question were in a great measure owing to excess of the catamenia and attacks of menorrhagia from time to time in earlier years, by which the blood became impoverished and the general tone of the nervous system lowered. The mother and sister of the patient furnish a similar history. It seems reasonable to suppose that this state of things frequently lays the foundation of severe neuralgia, which does not happen in middle life when there is still resistance left, but comes on gradually with increasing years and declining strength. Clinical evidence, as in this case at least, supports the theory. Then if there is a frequent repetition of the attacks the muscles and nerves give way under slight provocation, the heart palpitates and becomes irregular in its action and that which at first was a purely neurotic condition may eventually merge into organic mischief. The nervous failure has invited it. As soon as the pain was relieved in this case we had to deal with an anæmic condition in which the blood was deficient in one or more of its constituents. So long as this continues a general state of debility is established leading to malnutrition and sometimes to chronic disease. The subjects of this form of headache, fearing a recurrence of the attacks of pain, are often afraid to take the necessary nourishment to support the system and they too frequently live under conditions not conducive to health in matters of air and exercise. To cure an anæmic tendency and to remove it when established are the best means of warding off recurring attacks of neuralgic headache. I have had many opportunities of observing the good effects of Levico water ("mild") in these cases. It has when continued long enough imparted colour to the cheeks and removed some of the uneasy sensations, as breathlessness, palpitation &c, when the blood is deficient in hæmoglobin. Differences of opinion have arisen as to whether the iron administered is actually absorbed. It seems to me that it is. Hamburger and others consider that very little is absorbed from the abdominal canal. The quantity of iron, says Dr Halliburton, in the whole body is only three grammes, and this quantity is taken many times over during treatment.²

A RARE FORM OF DOUBLE PYOSALPINX

By A C BUTLER SMYTHE, F.R.C.S. EDIN.,

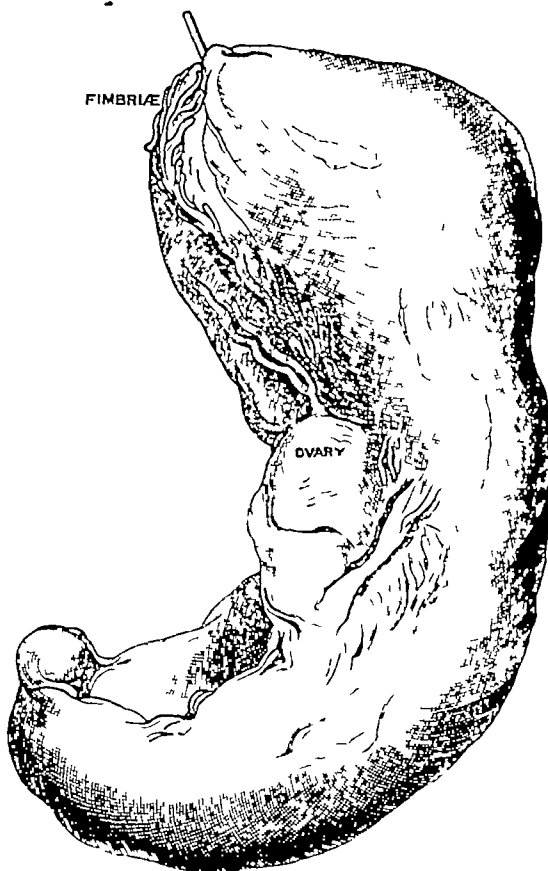
SURGEON TO OUT PATIENTS SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN AND SURGEON TO THE GROSVENOR HOSPITAL FOR WOMEN AND CHILDREN

In December 1891 I was asked by Dr Cullingworth, who was ill at that time, to see and if necessary to operate on a young lady who had an abdominal tumour. The patient aged twenty six, had been married five years, but had never become pregnant. Ever since marriage coitus had been painful, but latterly the pain was very severe. Seven years ago she was laid up with pleurisy and was tapped on the right side. Six months later she had an attack of abdominal inflammation and kept her bed for some weeks, during which time her abdomen was much swollen, the circumference below the umbilicus measuring thirty two inches. As she recovered from the attack the swelling subsided and her figure resumed its normal shape. A few months later she married, and during the subsequent five years enjoyed very fair health. In October, 1891, she complained of pain in the lower part of the abdomen and thought she could feel a swelling there. Dr Fawson Lee of Salisbury was consulted, and he, recognising the gravity of the case sent her to London for further advice. She was taken to a house in Harley-street, where I saw her in consultation with Dr Lawrence Copeland the day after her arrival. On examination a large elongated swelling, centrally situated and reaching to the umbilicus, was detected. It was freely movable from side to side, but was not tender to touch. The uterus was pushed up in front of the tumour and could be distinctly felt through the abdominal walls. Bimanually the lower part of the tumour was found to occupy Douglas's pouch, from which it could not be dislodged. On the left side of the uterus was there another large fixed swelling which filled the pelvis on that side. The sound passed into the uterus two inches and a half but that organ could not be separated from the two swellings. No fluctuation was detected in the tumour either by abdominal or pelvic examination. The diagnosis arrived at

was "Two tumours of somewhat doubtful nature, the central one probably ovarian and that on the left side a distended Fallopian tube." I decided to operate with as little delay as possible.

On Dec. 11th Mr Stormont Murray administered ether, and assisted by Dr Copeland, Dr Fawson Lee also being present, I proceeded to open the patient's abdomen. Difficulty was experienced at the very outset of the operation, owing to the omentum being extensively adherent to the abdominal wall in the line of incision, it being necessary to enlarge the opening to the extent of five inches. On introducing my fingers into the abdominal cavity there seemed to be four distinct tumours—the central swelling, the body of the uterus, and the left Fallopian tube enormously distended and bent upon itself in the shape of a horseshoe. The central tumour was intimately connected with the posterior surface of the uterus, its lower portion being fixed in the recto-vaginal pouch, and thus pushing the uterus upwards and forwards.

FIG 1



A distended Fallopian tube

The whole surface of the tumour was surrounded by adherent intestine and omentum, the separation of which was most difficult and tedious. I succeeded, however, in removing the tumour unruptured and controlled the rather free hæmorrhage by packing sponges into Douglas's pouch. The tumour on the left side was then dealt with, and its enucleation and removal gave considerable trouble owing to extensive intestinal and pelvic adhesions. In both cases the ovaries were so closely attached to the uterus that it was impossible to ligature the tubes without including fragments of ovarian tissue. The adherent omentum was then separated from the abdominal peritoneum and all the bleeding points were tied with fine silk. I did not wash out the peritoneal cavity or drain, but carefully sponged out the pelvis and then closed the wound with silk sutures. The operation lasted over two hours and a half but the patient after removal to bed had a capital pulse and did not show any signs of exhaustion. She rallied

² Text-book of Chemical Physiology and Pathology, 1891 p 300

myelitis is rare.¹ Dr Wilks in his "Lectures on Diseases of the Nervous System" only quotes two cases and Dr Pye-Smith mentions a case in "Fagge's Medicine." The cause in this case was most likely exposure to wet and cold and most probably the former had more to do with it than the latter. The suddenness of the attack was well marked, and retention of urine was one of the earliest symptoms. The patient improved gradually but his improvement was seen from the day of his admission, so that it is somewhat improbable that the iodide of potassium had any beneficial effect, as this was not prescribed until two days after his admission to hospital. The absence of bedsores was in the patient's favour and every care was taken in preventing them, the patient being put on a water bed and the skin of the back, buttocks and heels daily washed with methylated spirit and dusted with zinc and starch powder. One half of the spinal cord appears to have been more involved than the other half, as the paralysis was always more marked on the right side.

S G—, aged forty three, a trawler, was admitted on July 28th, 1891, complaining of paralysis of the lower extremities, slight pain in the lumbar region and retention of urine. The patient was a strongly built, dark haired man about six feet in height. He gave the following history. A week before the commencement of his present illness he was cutting grass with a pair of shears and had to sit and lie about on the wet ground. He continued this occupation for a week. On July 18th he noticed that his feet felt "numb and dead" and in the afternoon he could not pass his urine and was obliged to send for his doctor and have it drawn off. The feeling of numbness extended from the lower part of the abdomen and down the thighs and legs. On the 21st his legs felt worse and he could not walk, the right leg was worse than the left. At the beginning of his illness he suffered from pain in the back, this was more marked on trying to sit up in bed. Fifteen years ago he had gonorrhœa, but had never had syphilis. He had been strong and healthy up to the time of his present illness. The heart and lungs were normal. Temperature 99°, pulse 68 full, regular and not easily compressible. The legs and thighs were well developed, but the muscles felt distinctly flabby. He had complete paralysis of the right leg, but he could move the left leg very slightly. There was no plantar or cremasteric reflex on either side. Both patellar reflexes were increased, but more so on the right than on the left side. Ankle-clonus was well marked on both sides. Sensation was altered on the plantar surface of the feet, he could not feel the prick of a pin, but stated that he felt something touching him. This modified sensation was also present on the legs and thighs, but was more marked on the plantar surface of the feet. The catheter was used to draw off urine, and as the urine was alkaline and ammoniacal his bladder was washed out twice a day with hot boracic lotion. His bowels were constipated, but before the illness he had always been regular. He was given a light diet, and a mixture of iodide of potassium (5 gr) with carbonate of ammonia and gentian was ordered. This mixture was continued for three weeks. He had then gained more power in the legs, the right leg was still worse than the left and the muscles felt softer. His bowels were very troublesome and only acted after an enema. He continued to improve and on Oct 8th the following note was made. The patient's gut has much improved, he can now walk long distances without fatigue but in walking he seems to bring his feet rather too suddenly down, and sometimes he totters slightly. The muscles of both legs feel much firmer. The right knee jerk is still much increased and the left slightly, there is no ankle clonus. He passes urine about every five hours during the day and gets up once or twice in the night to pass it. He has been taking four minima of liquor strychniæ three times a day since Aug 19th. The patient left the hospital on Oct. 13th, and has been under observation since. He has been in his usual health for some months. He can walk long distances without fatigue and has resumed his occupation as a trawler. The muscles of both legs have completely regained their normal tone, his gait is quite natural and he has no increase of knee-jerks. The urine is acid and he has no trouble in passing it. His general health is now very good.

¹ See also Bristowe Theory and Practice of Medicine.

THE NATIONAL LEPROSY FUND.—It is understood that a few advance copies of the report of the Leprosy Commissioners may be expected to arrive in England in the course of the present month.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY

Effects of Iodides on Arterial Tension and Excretion of Urates

AN ordinary meeting of this Society was held on Jan 10th, Dr George Harley, Vice President, in the chair.

A telegram from the President was read announcing his inability to be present and asking the Society to welcome Dr Mirza Ali, chief physician to the Shah and Professor of Medicine in the University of Teheran, who was on a visit to this country. He was accompanied by Hussein Kuli Khan, Secretary of the Persian Legation, and he presented to the library of the Society copies of his medical works in Persian and French.

Dr A. HAIG read a paper on the Effects of the Iodides on Arterial Tension and the Excretion of Urates. He referred to an article of his in vol lxxi of the Transactions on drugs which diminished the excretion of urates. The list of substances which had this action had now been greatly enlarged and he believed that the iodides must be added to it. He also believed that the action of these substances on the solubility and excretion of urates would explain a large part of their value and utility in medicine and surgery, just as he had previously said elsewhere with regard to opium and mercury, which acted in the same way. He was at first misled by his results with the iodides, and was further hindered by their affecting the process which he had used for the estimation of uric acid (Haycraft's). These difficulties were, however, got over, and with greater knowledge and experience of the working of certain laws which govern the excretion of urates and of water he now believed that it was possible to speak more decidedly as to the action of iodides. One of these laws was that first formulated by the writer at the beginning of 1889¹ "that, *ceteris paribus*, arterial tension varied with the uric acid that was circulating in the blood." Another was that from day to day and from hour to hour in physiological conditions the urinary water varied inversely as the uric acid was excreted along with it. Another was that in physiological conditions the excretion of urates in the urine varied inversely as the acidity of the urine. And another, that the amount of urate in the urine was relatively to the urea to a certain extent an index of the amount of urate passing through the blood. From these it followed that arterial tension varied with the amount of uric acid that was being excreted in the urine. But arterial tension meant contracted arterioles, and contracted arterioles meant that water had difficulty in passing the kidneys, as was shown to be the case in the parallel action of digitalis and other drugs which contracted the arterioles, and this was the reason why the urinary water varied inversely as the uric acid. The diuretic action of iodides was well known, and the writer showed four figures which demonstrated that at the time an iodide was causing diuresis it was also causing a diminished excretion of urate and that the one thing was related to the other as cause and effect. The figures also showed well the inverse relation of urates and water in excretion, also that under the influence of iodides the excretion of urate ceased for a time to bear its usual inverse relation to acidity. But the writer pointed out that some twenty drugs, or rather groups of drugs, all diminished the excretion of uric acid in the urine, and at the time they did this they produced also relaxed arterioles, lowered arterial tension and diuresis. Then iodides could be classed along with these drugs, and as the latter could further be broken up into three groups according to the way in which they produced the diminished excretion of uric acid it might be possible to say which of the groups the iodides most resembled in their mode of action. He pointed out how this action of iodides on the solubility of urates and so on the contraction of arterioles, enabled us to explain all their most important effects in physiology and pathology, just as he had previously pointed out in the case of opium and mercury. Lastly, he referred to his previous writings on uric acid as a cause of high arterial tension and suggested that there was no possible explanation of the parallel action of all these drugs except that which he had given—namely that urates contracted the arterioles all over the body and

¹ Brit. Med. Jour., vol. I p 291.

six grains, Mr Lyster² of Coleshill also described a case where recovery followed after a patient had probably taken two grains and a half of the alkaloid, and Mr Fegen⁴ described the symptoms in a fatal case where it was supposed that from two to three grains of the poison had been taken. Dr Bingham⁵ of Alfreton was also engaged with a fatal case of poisoning from this drug. Dr Wyman's suggestion with regard to the continued administration of chloroform appears a practical one. With regard to some of the antidotes which have been more recently recommended, Anrep⁶ thinks urethan superior to chloral hydrate and advises the administration of one to one and a half drachms when a poisonous dose of strychnine has been taken. Dr C Sanquirico⁷ recommends intravenous injections of a considerable quantity of an 8 per cent. soda solution, which will produce an active diuresis and assist in eliminating the poison. J S Horsley⁸ in a case of strychnine poisoning injected apomorphine in doses of from one fifteenth to one-tenth of a grain subcutaneously and "completely subdued the convulsions and eventually successfully antagonised the excitant alkaloid."

At 3 A.M. on April 12th, 1892, two women were brought to the hospital said to be suffering from the effects of poison through eating tinned salmon. It appeared that they had both dined off tinned salmon at 7 P.M. on the evening of the 11th and supped off the same substance at 2 A.M. on the 12th. But one of the women, E S—, also stated that a man who left their house just before their supper at 2 A.M. had given them each "three long narrow pills" (capsules). The exact time at which the unfortunate women swallowed the pills could not be ascertained. At 2.30 A.M. their screams aroused the landlord, and a policeman who was called in brought them to the hospital, having first given them each a mustard and water emetic, but without the production of vomiting. One of the women A. M—, died on the way to the hospital. The other, E S—, was alive and when first seen was sitting in a chair apparently quite well. Within a minute or two she had a convulsive attack in which owing to the straightening of her back, she slipped off the chair on to the floor. An emetic (40 gr. of sulphate of zinc) was given, but without effect. The stomach was then washed out several times with tepid water and half a tumblerful of thick charcoal and water given her to drink. During this time the patient was having convulsive attacks every four or five minutes. The attacks were of the following character. The patient suddenly became quite stiff, the back rigid and arched, with rigid flexure of arms and rigid extension of legs and feet. The rigidity was very marked during the greater portion of the attacks, which usually lasted from one minute to a minute and a half. But towards the end of the attacks, sometimes from the beginning, there were spasmodic movements of legs, arms and back. The pupils were equal, semi-dilated and reacted to light. The pulse was even but rather accelerated. Respiration seemed to stop during the attacks. The patient recovered from these fits almost as quickly as she entered them and in the intervals between them was perfectly conscious and rational only complaining of a little stiffness of the legs and dryness of the throat. The attacks came on at fairly regular intervals but whenever she received any external stimulus—such as change of position, the attempt to drink or even, on one or two occasions the sound of pouring fluid into a glass—she had a fresh attack. The attacks were frequently preceded by a loud cry. As the fits did not abate in frequency or severity chloroform was administered at about 4.15 A.M. and while under its influence the patient was removed to Christian ward. While being put to bed the effect of the chloroform partially passed off and the patient had another attack, in which she became greatly cyanosed and respiration was suspended. It was only after some minutes of artificial respiration that she again began to breathe. Chloroform was then again administered, and the patient was kept deeply under its influence until 7.30 A.M., during the whole time of its administration breathing quietly and maintaining a firm, steady pulse. At 7.30 it was discontinued under a false hope of security, and as its effects began to wear off the patient had three more convulsive attacks in the last of which she died although artificial respiration and chloroform were again resorted to. Death took place with extreme cyanosis at 7.45 A.M., about five hours and a half after swallowing the pills. The urine which had been retained since admission, was drawn off by catheter at 7 A.M., and was found

to contain a trace of albumen and a deposit of urates. It was afterwards analysed by Mr White, the hospital pharmacist, who discovered in it one-twelfth of a grain of strychnine.

The post-mortem examination showed no sign of any organic disease in either case. In both cases the blood was very dark and fluid. In the case of E S— the right side of the heart was distended with soft, black clot and the lungs were full of blood and were oedematous. In the case of A. M— both sides of the heart were empty, but the lungs were in the same condition as those of E S—. The stomachs, with their contents, a portion of liver and one kidney from each case were removed and forwarded to Dr Stevenson, Government analyst for examination. He reported the results of his analysis as follows:

E S—Vomit contained	1.46 gr strychnine.
Stomach and contents	1.60 "
Liver and kidney	0.20 "
Total	3.26 "
A. M—Stomach and contents	6.39 "
Liver and kidney	0.40 "
Total	6.79 "

Remarks by Dr WYMAN.—The symptoms as above detailed in the case of E S—, coupled with the fact that A. M— had already died from the effects of presumably the same poison, were so characteristic as to be unmistakable. As regards the treatment it may be said that as long as E S— remained under the influence of chloroform she appeared to be in no danger, at any rate from the effects of the poison. And it is reasonable to suppose that if the administration had been continued until the poison had had time to be eliminated from the system by the urine the patient might have recovered. That the administration would have had to have been continued for some twelve hours or more seems probable from the fact that only one twelfth of a grain was so got rid of during the five hours she was under treatment. From this, then, it would seem that if the chloroform treatment is used at all it must be continued until all trace of the poison has disappeared. This can only be determined by watching very carefully for any sign of twitching of muscles, especially of those about the eye and mouth during the period immediately succeeding the cessation of the administration of chloroform. If the slightest twitching is observed chloroform should be again administered. Unfortunately, the process of separating the strychnine from the urine is rather a lengthy one in point of time and therefore not likely to be of much value in this respect. Charcoal readily absorbs strychnine and other vegetable alkaloids and is therefore a useful remedy. It should be given in large quantities, allowed to remain in the stomach for ten minutes or a quarter of an hour and then washed out with the stomach pump, for if allowed to remain and pass on into the intestines the strychnine will again be given off and carried into the circulation. The process should be repeated two or three times. Another point of great importance from a legal point of view which arose in this case is the question, When, with a view of obtaining a dying declaration, is the medical attendant justified in telling the patient that he is dying? Any description of the murderer or other statement concerning the crime cannot be brought as evidence against a prisoner unless it can be proved that the victim at the time of giving it believed that he was actually dying and would not live many hours. In this case I did not feel myself justified in telling the patient that she was dying and therefore her statements were not allowed as evidence at the trial. It must be remembered that a living witness is better than a dead one, and anything tending to add to the risks of death in a doubtful case should be avoided. If on the other hand, there can be no doubt that a fatal result is imminent, I think it is the medical attendant's duty to tell the patient plainly what his condition is, and so possibly assist justice and protect other people from a similar fate.

TORBAY HOSPITAL, TORQUAY

A CASE OF ACUTE MYELITIS, COMPLETE RECOVERY

(Under the care of Dr POWELL.)

As Mr Watson, the house surgeon, to whom we are indebted for the notes, observes, complete recovery from acute

² THE LANCET, vol. i. 1889 p. 613. ⁴ Ibid. vol. i. 1889 p. 951.

⁵ Ibid., vol. i. 1889 p. 332.

⁶ Sajous 1878 vol. v p. 125.

⁷ Ibid. 1890 vol. v p. 96.

⁸ Ibid., 1892 vol. v p. 25.

from India had uterine catarrh and descent with retroversion. After the application of two zinc alum points, without rest in bed and without a pessary, the uterus had returned into its place and the backward displacement had gone. With respect to dyspareunia, this was a wide term and there were at least two principal forms—one in which the pain was associated with spasm of the vaginal orifice and the other due to deep tenderness, generally from some inflammation about the ovary or tube. In such a case there was often tenderness on pressing the uterus, which was not really tender but pressed against the adjacent tender organ. It was often described as tenderness of the uterus, but incorrectly—Dr GERVIS did not agree with the opinion that backward displacement of the uterus was but a stage of prolapse, although unquestionably retroflexion without descent was of far less importance than when it occurred with it. Speaking generally, he thought that flexions, if uncomplicated, were of but moderate importance, but if associated with cervical stenosis or endometritis they became of considerable importance. He further believed that in many of the cases where there was associated ovarian pain the pain was due to a subovitis whose starting point was endometritis, and that this endometritis was in its turn due to the interference with normal menstruation induced by the flexion—Dr HERMAN, in reply, said that, in his opinion, uncomplicated retroversion or flexion of the uterus caused no symptom of any kind. Had the cases on which the paper was based not been complicated the patients would not have applied for treatment. Some years ago it was believed by many that every complication that existed along with a displaced uterus was the consequence of the displacement. Some had gone to the opposite extreme and regarded backward displacement of the uterus as being always a bagatelle and the presence of symptoms with it merely a coincidence. He had compiled this paper to help himself to a correct idea of the frequency with which backward displacement was really the cause of symptoms existing along with it. It was not possible to settle the question of reporting individual cases because the interpretation of individual cases depended on the general principles previously adopted by the observer, which he could not prevent from biasing his judgment, therefore he (Dr Herman) had adopted the statistical method set forth in his paper. He did not accept the views put forth by Dr Gervis, and for two reasons. First, if retention of menses was produced by flexion of the uterus, how was it that no one had ever yet produced a uterus dilated by the retained fluid? Secondly, if displacement backward caused the ovaries to be tender by producing salpingitis and oöphoritis, how was it that (as the displacement was not unilateral) this state of things was produced three times as often on the left side as on the right?

Dr CULLINGWORTH next communicated a note supplementary to a paper read before the Society on April 2nd, 1890 on Vaginal Hysterectomy, giving the subsequent history of the cases. Of these, one lived for two years and two months, one for a few days short of two years, and the third for a little over seventeen months. Two enjoyed perfect health until within a few weeks of their death. In each of these cases death resulted from intestinal obstruction, the cause of which in one case remains unknown, in the other it was pelvic adhesions, the only signs of recurrence being a single enlarged gland and a small ulcer in the vaginal roof. In the third case the history showed restoration to fairly good health for six or eight months then gradual failure for twelve months, and finally six months of absolute confinement to bed, death occurring from kidney disease due apparently to impaction of the bladder and ureters in the recurrent growth. The patients with columnar celled carcinoma lived longer than the one in whom the disease was of the squamous celled variety—Dr PLAYFAIR said in his opinion the whole subject of the surgical treatment of uterine cancer was still *sub judice*, and neither total extirpation nor supra-vaginal amputation could be considered, so far as our present experience went, as anything but very unsatisfactory procedures, affording the patient the chance of prolonging her life in comfort for a greater or less length of time, but which, so far as existing evidence went to show, did not give a reasonable hope of complete cure. The important point to settle was which of these procedures affords the patient the best chance for the future? He had operated in a large number of cases by supra-vaginal amputation, but sooner or later the disease had recurred in all. Nor is the immediate danger altogether a negligible quantity. He did not know of any reliable statistics on this point, but he observed that in a recent paper read at the Gynecological

Society advocating this procedure death had been stated to follow in two out of twenty four cases (about 8 per cent.), which represents an initial mortality but little less than that of total extirpation. He thought it must be admitted that if from improved technique the mortality of total extirpation could be shown to be not materially greater than that of supra-vaginal amputation, it must be considered the most surgically correct and hopeful procedure. No surgeon in his senses would remove part of a cancerous organ if he could remove the whole of it without much more danger. So far as recent statistics went the tendency seemed to show that total extirpation, unsatisfactory though it was, would come more and more into favour. It had been argued by Dr John Williams and others that in epithelial cancer of the cervix the tendency of the disease was to spread laterally on to the vaginal walls and not upwards into the uterus, and that we might therefore safely rely on supra-vaginal amputation. This had always seemed to him (Dr Playfair) a dangerous doctrine, and in the uterus [now shown] which he had removed by total extirpation the disease was apparently limited to the cervical portion so far as naked eye appearances went. Let in the section shown under the microscope, taken from near the fundus and right away from the apparently diseased textures there were marked evidences of malignant infiltration. Similar specimens had been shown by Olshausen and others, so that the theory that "the epithelial variety of cancer can be safely considered to be limited to the cervix" seems untenable.—Dr LEWERS said that a conclusion as to whether vaginal hysterectomy or supra-vaginal amputation of the cervix was the better operation could only be arrived at by comparing the results, both as to mortality and recurrence, obtained by these operations in a large number of cases. He did not think Dr Cullingworth's cases were at all encouraging to those who were the advocates of vaginal hysterectomy, on the contrary, these cases made it evident there was an appreciable risk of intestinal obstruction as a remote consequence of the operation. Referring to his own patients, he had nineteen cases of supra-vaginal amputation without a death, and six of these were free from recurrence for two years and upwards after the operation. As regards the body of the uterus being involved in some cases, as mentioned by Dr Playfair, the point was that generally when there was extension to the body of the uterus there was also infiltration of the tissue round the cervix, making these cases unsuitable for either operation. He thought that in exceptional cases vaginal hysterectomy was required for cancer of the cervix, and he had shown a specimen in point recently.—Dr HEXWOOD SMITH considered that the result in Dr Cullingworth's cases told more in favour of supra-vaginal amputation of the cervix, as two of the deaths were owing to obstruction due to adhesion of the bowel to the pelvic wound. He suggested the advisability of drawing down the wounded edges into the vagina so as to present a smooth surface on the peritoneal aspect. It seemed to him that, except in cases of primary cancer of the fundus uteri, the supra-vaginal amputation held out the better prospect of success at rather less risk to the patient.—Dr GERVIS thought Dr Playfair took too gloomy a view of the progress in cases of supra-vaginal amputation of the cervix, especially where the operation was undertaken for an epithelioma springing from the vaginal aspect of the cervix, or which, commencing in the cervical canal, had spread laterally rather than upwards.—Dr WILLIAM DUNCAN pointed out that at the present moment there are no statistics showing the mortality in a large series of cases in which vaginal extirpation and supra-vaginal amputation for cancer had been respectively performed in this country, and that therefore we were not in a position to dogmatise on the subject. The best series of vaginal extirpations he knew of was that of Professor Sinclair of Manchester, whose mortality was certainly as small as that of supra-vaginal amputation when performed by the most skilful operators. He must confess to a change of opinion with regard to the two operations to that he expressed in a paper on Extirpation of the Uterus read before the Obstetrical Society in 1885 and he thought that now as the mortality of the two operations can be reduced to almost (if not quite) the same level, total extirpation was the more scientific procedure, even though it were the more difficult to perform.—Dr CULLINGWORTH, in reply, said he saw no reason to modify the opinion he expressed in the discussion on his hysterectomy paper as to the respective merits of supra-vaginal amputation and total extirpation. He thought Dr Playfair's specimen a very striking illustration of the risk run

raised arterial tension, while their absence from the blood stream, however produced, allowed these vessels to dilate. The action of iodides on arterial tension was thus completely explained by their influence on the solubility and excretion of urates.

Dr GEORGE HABLEY said that in latter years pathology had entered on a new phase, the scalpel and the microscope giving place to the test tube and the balance. He held that it was through chemistry alone that the secrets of morbid action could be discovered. The diseases arising from anomalies in the behaviour of uric acid were manifold, and he could bear personal testimony to the fact that when colchicum could not be borne in gout iodide of potassium would give great relief. Certain individuals were more prone to form uric acid than others, so were certain families and in certain districts. Uric acid was very common among the ancient Egyptians. Many theories had been advanced as to the cause of its formation, it had been thought to be a transition stage in the formation of urea and it had been considered to be due to a too high oxidation. The dog had no uric acid in his urine, though he fed much as his master did, and the calf had uric acid in its urine though the cow had none. These peculiarities were as yet unexplained.

Professor MIRZA ALI said that gout was not unknown in Persia, but it was only met with among the rich, the poor did not eat animal flesh at all. The only collections of uric acid found were in the joints, he had not met with them in the kidneys or bladder.

Sir WILLIAM ROBERTS found that he could scarcely intervene in the discussion with much advantage. He had been following Dr Haig's work for years, but he thought that a too continuous study of one subject led to something like mesmeric dazing and diminished an author's experimental resources. His three years' work on this question had led him in an opposite direction to Dr Haig. He had found that the uric acid varied conformably with the amount of water. Dr Haig had stated that the alkalies increased the capacity of the blood for dissolving urates, but no general statement such as this could be opposite, for what was true with regard to uric acid was false for urates. It appeared to him chemically impossible that uric acid could exist free within the body, and according to his own reflections it was unnecessary to assist its solubility. He knew of nothing which affected the solubility of bi-urates in blood serum outside the body, and his experience was that rendering the serum more alkaline rather diminished its solvent power. He regarded uric acid as harmless so long as it remained in solution, it only became troublesome when thrown out. He doubted more and more whether uric acid covered the whole field of gout or whether the latter was not a much larger subject. He was inclined rather to believe that if uric acid were withdrawn altogether gout would still remain as a clinical and pathological entity recognisable as such.

Dr SANSOM said that the paper of Dr Haig and the contribution of Sir William Roberts were directed rather to what used to be called the "humeral" aspect of the subject. Though he did not wish to throw doubt on this side of the question, he believed it should occupy the background, being deuteropathic rather than protopathic. That the iodides had a marvellous power of reducing arterial tension could not be denied, in sacculated aneurysms and in angina pectoris their favourable action in relieving pain and distress was marked. But he questioned if the relaxation of intra-arterial strain were really due to an action on the fluids of the body, he regarded it rather as some action through the nervous mechanism whereby the arterial tension was relieved. Iodide of ethyl inhaled was often followed rapidly by the relief of symptoms, and he doubted if, in the few seconds which elapsed, the drug could not in the manner Dr Haig suggested. The amount of arterial tension depended not only on the contraction of the arterioles but on the force of the left ventricle, and the free excretion or otherwise of urine depended on both these factors. It was a question of correlation of peripheral resistance with a weak or strong left ventricle. He asked if in an attack of acute gout the arterioles were usually contracted, he had seen marked diastolic pulse during this stage. He thought the evidence brought forward must be carefully weighed in the light of clinical experience.

Dr HAIG in reply, said that, as to the proneness of certain groups of people to the formation of uric acid, he doubted whether there was really a plus formation or whether more uric acid was not retained in their bodies. Excessive formation was entirely due to meat diet. Gout and calculus were

to a certain extent the opposites of each other. Gout occurred with a minus excretion, the uric acid being retained, calculus occurred with a plus excretion, the uric acid being cast off. Sir William Roberts had obtained his opposite results by working in the laboratory. He himself could make the headache vary absolutely with the amount of uric acid present in the body. He had experimented largely with nitrite of amyl and nitro-glycerine. It took seven or eight minutes before the maximum effect on arterial tension was produced with these drugs, and this allowed ample time for the substance to act chemically on the blood. There was very little uric acid in the blood during an attack of gout and the arterioles at that time were relaxed.

OBSTETRICAL SOCIETY OF LONDON

Backward Displacements of the Uterus — Vaginal Hysterectomy

A MEETING was held on the 4th inst., Dr J. Watt Black, President, in the chair.

The following specimens were shown —

Dr HANDFIELD JONES. Calcification of Fibroid.

Dr LEITH NAPIER. (1) Fibro-myoma undergoing Degeneration, (2) Several Gynecological Instruments.

Dr WHEATON. (1) Bony Parts removed from Dermoid Tumour, (2) Bilateral Cephal hæmatoma.

A paper by Dr HERMAN on the Frequency of the Local Symptoms associated with Backward Displacements of the Uterus was then read, the communication being based on an analysis of 407 cases of the abnormality. He found that chronic pain of some kind is present in nine-tenths of the cases of backward displacement of the uterus. The most frequent seat of pain is the back, generally the sacral region. Next most often come sensations of descent and unilateral pain, chiefly in the ovarian region, cases of left-sided pain outnumbering those of right-sided pain in the proportion of three to one. In a small proportion lower abdominal pain is the chief complaint, and in a very small minority trouble in locomotion is the prominent symptom. Pain in defecation is present in less than half the cases. In the majority of the cases in which it is present it is accounted for either by constipation or by morbid conditions of the rectum. Dr Herman estimates the proportion of cases of backward displacement of the uterus in which the displacement is the sole cause of painful defecation at about one in nine. Backward displacement of the uterus has no appreciable effect as a cause of painful micturition, but bladder irritation due solely to the displacement is present in about one case in five. Leucorrhœa is not commoner in cases of backward displacement of the uterus than among other patients. Dyspareunia is present in at least one-sixth, and probably in a large number, absent in at least one-seventh. Dr HANDFIELD JONES pointed out that Dr Herman, while tracing the connexion of pain at various points with backward displacement of the uterus, had made no reference to the condition of the misplaced organ, for in some cases it caused no symptoms, whilst when inflamed and acutely tender it did give rise to great suffering during defecation or coitus. Sometimes the ovaries were also prolapsed, enlarged and tender and were the real cause of the pain complained of. — Dr CHAMPEYNS agreed that the explanation of the frequency of left-sided pain was that that side was the "weaker," that this was not due to pelvic causes was proved by the frequency of other left-sided pains, and especially left sub-mammary pain. Pain in the bowels was generally due to intestinal causes. The unimpregnated uterus could not conceivably exert any injurious pressure on either the bowel or the bladder, its weight out of the body was about an ounce, and as about half of this was lost by the pressure of the surrounding soft parts, it could only exert a downward pressure of some half ounce. The only other theory of pressure was that due to impaction, the conjugate of the pelvis was about four inches, the extreme length of the uterus not more than three, if flexed still less, so that impaction was impossible. The immediate effect of bearing down was not to increase but to diminish retroversion and flexion, the centre of the pelvic diaphragm descending more than the sides. Generally speaking, backward displacements were signs of descent. He was rather surprised to hear that catarrh was not common among patients with backward displacement. In his experience the association was very common, and both were signs of absence of tone in the pelvic soft parts. He had seen two cases a little while ago which illustrated this association—two ladies

SHEFFIELD MEDICO CHIRURGICAL SOCIETY—At the meeting on Dec 22nd, 1892, the President, Mr Simeon Snell, F R C S Edin, in the chair, the following cases, notes and specimens were brought forward.—Dr COCKING showed two cases of Ataxic Paraplegia (1) a woman aged twenty five, single, (2) a woman aged forty six, single, a governess. In the latter case there was diplopia four years ago, which soon passed off and was followed by weakness of the legs and ataxy, her gait was unsteady the unsteadiness increasing on turning and on closing the eyes, the pupils were equal, reacted sluggishly to light, and contracted slightly on accommodation, the discs were greyish, the knee-jerks had increased. The ataxy in both cases was unmistakable, but differed in character from that of locomotor ataxy. In neither case was there any evidence of intracranial disease nor of syphilis, or any history of injury or exposure. There was no neurotic family history.—Dr PORTER read the notes and showed photographs of two cases of Progressive Muscular Atrophy. In one patient aged fifty the atrophy commenced in the muscles of the leg, thus resembling the "peroneal type" of this disease. There was an entire absence of family history and the disease had run a very acute course. In the other case the atrophy had begun in the muscles of the scapula and upper arm and there had been marked lordosis and wing like projection of the scapula, resembling in several respects cases of simple idiopathic atrophy. In this case, again, there was no family history and the disease ran a very acute course, involving the forearms and hands in a typical manner. Death ensued ultimately from respiratory paralysis.—Dr WILKINSON read short notes of a case of Acute Ulcerative Colitis in a man aged forty three, who was admitted to hospital three weeks after the commencement of his illness and died three days after admission. The onset was acute, the principal symptoms being pain in the abdomen, diarrhoea with tenesmus, the passing of blood and mucus and rapid wasting. At the necropsy extensive and deep ulceration was found throughout the whole large intestine.—The PRESIDENT introduced patients with Herpes Frontalis, Embolism of the Central Artery of the Retina, Epicanthus &c. He also read notes of a peculiar and a rare case of Associated Movement of the Eyelid.—Dr DAVY brought forward a child with a hard, painless Abdominal Tumour situated in the left part of the epigastrium.—Mr RICHARD FAYELL showed an Ovarian Dermoid Tumour which he had removed from a woman who was three months and a half advanced in pregnancy. The patient made a good recovery and there was no attempt to abort.—At the conclusion of the meeting several specimens were shown.

Reviews and Notices of Books.

The Diseases of Children Medical and Surgical By HENRY ASHBY, M.D., F.R.C.P., and G. A. WRIGHT, M.B., F.R.C.S. Second Edition. London Longmans, Green and Co 1892.

THIS work has taken a recognised place in medical literature, and the appearance of a second edition shows that it is appreciated by the profession. It is one of the most thorough and complete manuals on diseases of children with which we are acquainted. The collaboration of a physician and a surgeon in the preparation of such a work is obviously a wise arrangement, and the wonder is that it has not become the rule. What would be thought of a physician or a surgeon who should propose to write a systematic treatise embracing the whole field of medicine and surgery as they relate to adults? Yet the difficulties of such a project are only a little less great in the case of children. The collaboration of Dr Ashby and Mr Wright saves this work from that sketchiness and scarpiness which are the bane of works upon diseases of children. The treatment of each subject is full and adequate, and no important disease is slurred over or merely outlined because it lies outside the range of the writer's practice. The present edition has been thoroughly revised, and several of the sections have been entirely re-written. Many clinical reports of interesting cases and forty new woodcuts, most of them origi-

nal, have been added. The authors hope that their work may now be accepted as presenting as far as possible a complete account of Diseases of Childhood. In reviewing a second edition we do not feel it necessary to enter into details. We have tested this work at many points, and always with a satisfactory result. No doubt there are not a few statements and recommendations which we should be disposed to contest, but this must always be so in such a wide and debatable field as that of medicine and surgery. The style of the work is plain and unadorned, there is no striving after brilliancy nor any apeing of originality. The authors have evidently aimed exclusively at accuracy, simplicity and thoroughness and we think they have succeeded. The woodcuts are numerous and well executed, but some of them are somewhat repulsive. The Horatian maxim, "Ne pueros coram populo Medea trucidet" is a good one for the stager, and we doubt if there is much advantage in multiplying ghastly representations of disease. Such aids to knowledge have their uses, but if employed too freely they seriously detract from the pleasure with which we contemplate the volume containing them. We can endorse the authors' claim that the information given is well up to date, and we have not noticed any important omissions. The therapeutic recommendations are for the most part plain and show common sense. We can heartily recommend this volume as ably fulfilling its design, and we feel sure it will continue to occupy an honourable place in medical literature.

Finger Prints By FRANCIS GALTON, F.R.S. London Macmillan. 1892. Pp 216

MR. GALTON'S works are always good reading. They deal with subjects and problems the discussion of which is exceedingly interesting, and which, though they are, so to speak, at everyone's elbow, have never been thoroughly and carefully worked out. Mr Galton's works on the Heredity of Genius, Natural Inheritance, and Human Faculty are examples of these investigations. In the present treatise he has taken up an apparently trivial subject, and by the number and accuracy of the observations he has made upon it has shown that it constitutes an exceedingly valuable means of identification of different persons even after the lapse of many years. If the palmar surface of the hand or the plantar surface of the foot be examined they are found to present a number of creases to the number and direction of which in the old days of cheiromancy great importance was attached, and also a number of minute parallel ridges which pursue curved courses, and, commencing in the hand just below the wrist, become very distinct over the thenar and hypothenar eminences are less marked over the first and second phalanges and are most pronounced on the pulps of the last phalanges. Their number varies from forty to fifty or sixty to the inch and they represent the arrangement of the nervous and vascular papillae which belong to the dermis. Mr Galton states that in China—whose inhabitants are always the first people in curious knowledge—India and elsewhere the impression of the tip of the finger has been frequently used as a sign manual for documents of importance where the persons concerned were unable to read or write. The first person who employed them for this means with effect was Sir Wm. Herschell, who, when in Bengal, found it so difficult to obtain credence to the signatures of the natives that he thought he would use the signature of the hand itself, chiefly made with the intention of frightening the man who made it from afterwards denying his formal act. The impression, moreover, proved so good that Sir Wm. Herschell became convinced that the same method might be further utilised.

The use of the ridges does not seem to be clearly made out. Mr Galton thinks they exist primarily to raise the mouths of

by those who practised the minor operation of leaving behind an unsuspected focus of cancer in the uterus. The fact of even the occasional occurrence of concomitant disease in the body of the uterus furnished a strong argument in favour of the removal of the whole organ even when the cervix alone appeared to be affected. Dr Lewers' great success in the partial operation naturally made him strongly advocate it, but the number of those who agreed with him was steadily diminishing, and he (Dr Cullingworth) had little doubt that total extirpation would come to be recognised as the more satisfactory method of dealing with the majority of those cases in which a radical operation of any kind was permissible. The meeting then adjourned.

PROVINCIAL MEDICAL SOCIETIES

FORFARSHIRE MEDICAL ASSOCIATION—A quarterly meeting of the Forfarshire Medical Association took place at the Anatomy Class room, University College, Dundee, on Friday, Dec 23rd, Dr Rorie, President, in the chair.—Professor WATMOUTH REID gave notes of a Case of Urohemato porphyrin uræa from Sulphonal Poisoning, of which the following is an abstract. Hemato porphyrin uræa is not uncommon in connexion with the administration of sulphonal. Stokvis, Jolles, Salkowski and Hammarsten have recorded such cases. In the case brought before the Society an elderly woman had taken large doses of sulphonal without medical advice and the urine presented the characteristic deep cherry red colour. The pigment was unfortunately extracted by the lead method from the small sample obtained and presented the spectra of urohemato porphyrin as given by Munn in acid and alkaline solution and after treatment with zinc chloride and ammonia. No more could be obtained for extraction with Salkowski's barium method or Garrod's earthy phosphate method, since the case was rapidly fatal. The connexion between sulphonal and hemato porphyrin uræa is very obscure. A recent paper by Smith, working under Baumann, deals with the changes undergone by sulphonal in the organism. Kast had previously shown that its administration did not increase the output of sulphuric acid and that easily soluble organic sulphur compounds appeared in the urine. Smith, considering the possible excretory products—ethyl sulphuric acid and sulpho acetic acid—because he could not find the latter concluded in favour of the former, but the substance was not isolated. The fate of sulphonal, then, is as yet unknown. No direct action of sulphonal upon blood, aerated or otherwise, in the incubator at 40° C, could be obtained by the author, even when finely divided fresh liver or spleen was added to the mixture, indeed, no disintegrating action was to be expected from such a stable compound. Neither could any hemato-porphyrin like pigment be obtained by acting upon bilirubin in alkaline solution at 40° C. Two possible explanations of an indirect action of sulphonal occur to one. (1) On the assumption that hemato-porphyrin is normally produced (traces in normal urine) but subsequently reduced in certain organs to a urobilin like body (Nencki and Lieber), it is possible that interference with such organs might lead to the appearance of larger amounts of hemato-porphyrin in urine. (2) Bilirubin being isomeric with hemato-porphyrin, it is also possible that the constipating action of sulphonal might lead to an abnormal amount of absorption of the former from the bowel and that it might appear in the form of the latter in urine. In conclusion it may be mentioned that the action of sulphonal in producing hemato porphyrin uræa is subject to idiosyncrasy. A sample affecting one patient may leave another untouched, and it is not necessary that in the event of its producing abnormal pigment excretion that that pigment should appear as hemato-porphyrin, as a recent case of Quinke's has shown.—Dr MCGILLIVRAY exhibited and read notes of a case of Persistent Papillary Membrane with Congenital Dislocation of the Lenses and Corectopia in both Eyes. He also read notes of another case of Persistent Papillary Membrane in one Eye. In the first case there was a history of consanguinity, in the second case there was no consanguinity. Dr McGillivray also showed a case of Synchronic Scintillans in one Eye in a woman aged seventy two years. Ophthalmoscopic examination revealed no further changes in either eye except slight hypermetropic astigmatism. Her defective vision was caused by well marked tobacco amblyopia. The patient seemed otherwise healthy.—A discussion ensued and the following specimens were exhibited amongst others.—A

preparation of the Decidua at the close of the First Month of Pregnancy, exhibited by Professor PATERSON, Simple Ovarian Cysts, by Dr MACFARLAN, Casts of Deformities of the Extremities, by Dr GRIGG, and a Supporting Multilocular Ovarian Tumour, by Dr KINNOCH. The President also showed the result of a recent method of Hardening Brain Substance which had proved highly satisfactory.

GLASGOW SOUTHERN MEDICAL SOCIETY—At a largely attended meeting of this Society, held on Thursday, Jan. 5th, David Couper, M.D., President, in the chair, a paper upon Diseases of the Conjunctiva was read by Dr A. MAITLAND RAMSAY, who said that out of 5828 new patients admitted to Charlotte street Eye Infirmary no fewer than 2550 or 43·7 per cent., were suffering from some conjunctival affection. After describing injuries, including burns from molten metal and from quicklime, and referring to the dermoid tumours, epithelioma and sarcoma, he spoke of the inflammatory affections of the conjunctiva. These were classified into the simple hyperemic or dry catarrhs, the hyperemic with discharge, the catarrhal and the purulent, the hyperemic with plastic formation, the croupous and the diphtheritic. He then referred to the great class of strumous inflammations—phlyctenular, pustular &c.—and concluded with a description of follicular and granular conjunctivitis. The etiology, pathology and clinical appearances presented by each of the various types were described and the principles underlying their treatment were briefly discussed. The paper which was illustrated by a large number of coloured lantern slides and by photo micrographs of various pathological conditions, was warmly received by the members of the Society.

MIDLAND MEDICAL SOCIETY—A meeting of this Society was held on Dec. 7th, 1892, Mr Enles, President, in the chair.—Mr HENRY WHITE showed for Dr Foxwell a man aged sixty five with severe Pressure Symptoms from an enlarged thyroid gland.—Dr CHRISTOPHER MANTON exhibited a Spleen removed from a case of leucocythæmia by Mr Lawson Tait. Although the extreme risk of the operation was pointed out to her the patient decided to undergo it. Mr Lawson Tait operated on Sept. 9th. The patient did not suffer in the least from shock and rallied well after the operation, but ultimately the stitch holes in the abdominal wall began to bleed and she slowly sank, dying four hours after the operation.—Mr HASLAM showed a specimen of Kidney lacerated by violence.—Dr SUOKLING then read a paper on Insomnia and its Treatment, and Mr LUCAS another on Transfusion as a means of saving Life after Severe Hemorrhage.

PLYMOUTH MEDICAL SOCIETY—Saturday, Jan 7th, was a clinical evening, Geo Jackson, F.R.C.S. (past President), in the chair.—Mr GEO JACKSON showed a smith's hammerman, aged forty three, from whose right vocal cord he had removed a papilloma with Schrotter's forceps eleven days previously. Hoarseness had been noticed for one year and seven months. Laryngoscopic examination now showed a wart on the left, nothing on the right, vocal cord. Laryngeal instruments were demonstrated and a microscopic preparation of tumour exhibited.—Mr GUGH produced a five-inch "bonnet pin" removed from the urethra of a man aged forty three. The point was felt in the perineum, cut down upon, drawn out and the beaded end extracted by slightly enlarging the wound, which healed by first intention, a catheter being tied in for three days.—Mr ROW exhibited (1) the Left Auricle of a dockyard labourer aged fifty three, removed for epithelioma (?) of the antitragus following on frost bite two years and a half previously, the mastoid gland was somewhat enlarged, (2) a Vesical Calculus weighing one drachm and a half, phosphatic crust, blood and mucus nucleus, removed by supra pubic cystotomy six weeks ago from a labourer aged forty eight years, after relief of several urethral strictures by Wheelhouse's operation four months previously. There was a sacculæ behind an enlarged prostate.—Mr THOMAS showed (1) half the Shaft of a Necrosed Fibula removed two months ago from a rickety girl aged five, and (2) Necrosed Femur from amputation of mid thigh for acute suppurative periostitis in a girl aged fifteen years, commencing eight weeks before. A huge abscess was opened five weeks before without relief. A small sequestrum was to be seen imbedded in the cancellous tissue of the lower end of the femur above the epiphysal line, and a large amount of new bone had formed at the periphery of the periosteal abscess.—Dr LUCY exhibited a Parotid Tumour removed from a farmer aged twenty four and of seven years growth. A microscopic section of a Myxo-chondro adenoma was then shown.

oxide in which have been determined by G. Krause. Vohl found sulphuretted hydrogen and hydrocyanic acid and from 0.7 to 2.8 grammes of ammonia for 100 of tobacco smoked. This investigator, jointly with Eulenberg, experimented on the smoke of strong tobacco, burnt both in pipes and in the form of cigars. The smoke was first aspirated through a solution of caustic potash and then through dilute acid. The alkali absorbed carbon dioxide, sulphuretted hydrogen, hydrocyanic, formic, acetic, propionic, butyric and valeric acids, phenol and creasote. The acid absorbed ammonia, pyridine (C_5H_5N) and all the homologues of the series to vindine, $C_{11}H_{19}N$ inclusive. In addition to the above bodies carbon monoxide, methane, and several hydrocarbons of the acetylene series were detected. Pyridine was the chief base in the smoke from pipes while collidine was the prominent base in cigar smoke. The admirable and comprehensive article on aconite bases occupies 44 pages, atropine and its allies claim 27, coca alkaloids 23, opium alkaloids 67, euphonia alkaloids 79, and tea and coffee 27 pages respectively. The sections devoted to the adulteration of tea, coffee and cocoa are as thorough as any we have seen.

Mr Allen's important contribution is doubly valuable because to a large extent it is a record of his own practical and extensive experience in analytical methods and processes. Volume III, part II, is not one whit behind its predecessors either in the able manner in which the subject is treated or in the lucidity of style characteristic of the author. It goes without saying that professional chemists, toxicologists, analysts and others interested in this study will do wisely to exercise little delay in procuring a copy of this new volume.

LIBRARY TABLE

The Hygiene of the Ear. By Professor COZZOLINO of Naples. Translated from the Fifth Italian edition by JAMES ERSKINE M.A., M.B. Glas. London: Baillière, Tindall and Cox. 1892.—In this little work of four chapters are summarised very ably the principal points of importance in the hygiene of healthy and diseased ears. The first two chapters deal with infancy and childhood. Were parents and teachers fully aware of what is written in these pages we should hear less of "stupid" children and cases of neglected discharges from the ear. The prevalence of deafness amongst school children is one of the most important subjects dealt with in this part of the work. The last two chapters are conducted on the same lines. Thus the harm that accrues to the auditory apparatus from certain drugs, sea bathing and some occupations is fully demonstrated. We are glad also to see that the author condemns the improper use of "ear-drums" and other devices so much in vogue amongst the public of this country. The last chapter concludes with an appeal for the more early recognition and treatment of ear disease. While most of what is said in this little work may be found in any good treatise on aural surgery we are strongly inclined to recommend the study of the hygiene of the ear as here set forth to those who have charge of the young. The work may be read with advantage by medical men, by school masters, and by those who have the control of large educational establishments.

Études de Clinique Chirurgicale. Année Scolaire 1890-1891. Par A. Le DENTU, Professeur de Clinique Chirurgicale à la Faculté de Médecine de Paris &c. Avec 36 figures dans le texte. Paris: G. Masson. 1892.—Professor Le Dentu states in his preface that it is his intention to follow up this volume with others, giving the results of his experience gained in the wards of the Hôpital Necker. From the character of the volume before us we hope this intention will be carried out. The first part contains a statistical account of the operations performed in this clinic for twelve months which shows the results to have been

very satisfactory and that the fruits of aseptic surgery are being reaped there. Then follows a series of twenty clinical lectures dealing with a great variety of topics, some commonplace, others rare and special. The lectures are clear and practical, and evince a high order of merit. The third part is devoted to reports of clinical cases, fifty-seven in all, observed in Professor Le Dentu's wards. They are grouped according to the tissue and parts implicated, and they are related with brevity and point. These cases are all of them noteworthy, and they are well and clearly described. The woodcuts accompanying them are in some instances poor, and ought to be improved in the subsequent volumes of the series.

Mediterranean Winter Resorts: a Practical Handbook to the Principal Health and Pleasure Resorts of the Mediterranean. By E. A. REYNOLDS BALL, F.R.G.S. Second Edition. Edward Stanford. 1892.—This is a useful and trustworthy handbook and will be found of great value to tourists and invalids. The author includes in his survey the resorts of the French and the Italian Riviera, Florence, Naples, Palermo, Catania, Málaga, Gibraltar, Corsica, Corfu, Malta, Tangier, Algiers, Cairo &c. The information given is fully up to date and remarkably accurate. The author does not write as a medical authority and always gives well known authorities for climatological statements. These will be found in the main judicious and valuable. The information regarding routes, hotels, guide books &c. is very full and correct. Within its limits this is one of the best books of the kind that has come under our notice. The only fault which we are inclined to find is with the illustrations, which are numerous and poorly executed. In future editions they should be either improved or omitted altogether.

The Queen's English up to Date. By ANGLOPHILE. London: The Literary Revision and Translation Office.—No doubt there is ample room for a book of the kind indicated by the above title, and any worthy attempt to maintain the purity of the English language, or to correct any departure from accuracy, is to be welcomed. It should be remembered, however (and this fact is suggested by a part of the title itself), that all living languages are subject to modifications, since new modes of thought and the advances of science necessitate new devices of exposition. Roughly speaking, the proper use of language is to convey exactly, in speech or in writing, the ideas it is desired to communicate to others. The law of evolution holds good in regard to language as it does for most other mundane things. Who, for example, would care to revert to the phraseology in which Chaucer couched his sublime imagery? With regard to the book under notice, whilst its object cannot but be commendable, the success with which it has been carried out may, to some minds, leave something to be desired. But who shall criticise the critics?

Recueil d'Ophthalmologie. 3e Série, 14e Année, No 10.—This part contains a case of chromatic hemianopsia by M. Galezowski, in which the patient had lost his sense of colour at about a distance of 30 on the nasal side from the point of fixation. M. Chauvel discusses phlyctenular ophthalmia and prefers in its treatment the insufflation of calomel and hot boric acid compresses. Dr. Francis Dowling contributes a paper on the influence of tobacco on vision. M. Galezowski, speaking of the symptoms and treatment of acute inflammation of the lacrimal gland, states that he had only one case in the course of ten years, 1879-1889, whilst since the visitation of influenza he has had five cases.

The A. B. C. Pocket Diary and Memorandum Book for Physicians and Pharmacists 1893. London: Burroughs, Wellcome & Co.—We have received some copies of this extremely handy pocket diary, the present edition of which will be found to be slightly improved by the addition of a calendar, postal information and a cash

the ducts, so that their excretions may the more easily be got rid of, and secondarily in some obscure way to assist the sense of touch. We would suggest that in addition they give a certain degree of roughness to the surface which enables the fingers and hand to obtain a firmer grip and retain their hold of smooth objects, but they may also, as he observes, enable the character of surfaces to be perceived by the act of rubbing them with the fingers.

Mr Galton devotes a chapter to the various modes in which a good impression of the ridges can be obtained. He describes with great minuteness the general course of the ridges, and shows how they may be divided into three main groups, which he names arches, loops and whorls, each of which presents many varieties, such as the plain arch, the tented arch, forked arch, and so on.

The persistence of these ridges is undoubtedly very great, and there are many points in the impression of each finger that can be directly and carefully compared, rendering it easy to establish the identity of the fingers making the impression after the lapse of years. Mr Galton remarks that the dimensions of the limbs and body alter in the course of growth and decay, the colour, quantity and quality of the hair, the tint and quality of the skin, the number and set of the teeth, the expression of the features, the gestures, the handwriting, even the eye colour, change after many years. There seems to be no persistence in the visible parts of the body except in these minute and hitherto too much disregarded ridges. In this work the interested observer may learn the method of studying them.

Lay Down Your Arms the Autobiography of Martha Von Tilling By BERTHA VON SUTTNER. Authorised Translation by T. HOLMES. Revised by the Authoress. London: Longmans, Green and Co. 1892.

THIS work is an autobiography of the Countess Martha Althaus, whose father was a general in the Austrian army and a keen soldier, and her two husbands were also military officers. Her first husband loses his life on the battle field, leaving her a widow at eighteen years of age with a son. Her second husband, Lieut. Colonel Baron Tilling, is ordered off to the Schleswig Holstein war, in which he takes part. Following this come rumours of the war with Prussia, which is finally declared, and he is again ordered off, together with Conrad Althaus, her sister's fiancé. The battle of Königgratz takes place, followed by the visitation of cholera at Grumitz, in which she loses her two sisters and brother, and her father dies of grief, and Conrad Althaus commits suicide on learning of the death of his future bride when he returns from the Austro-Prussian War. Baron Tilling relinquishes the service and proceeds with his wife to Paris, and is present at the siege, where, being suspected of *espionage* because a letter from Berlin is found in his possession, he is shot by the Communists. The elements of battle, murder, disease and sudden death may be consequently said to be always present and to afford opportunities for realistic and idealistic scenes. The object of the book, which is powerfully but somewhat too diffusely written, is to set forth the horrors and miseries of war and to show how terrible it is that wholesale slaughter should be the only way in which nations can settle their disputes. There is also a good deal of history and argument interspersed throughout the book. We are afraid, however, that it would be practically powerless if addressed to a nation like the French, for example, smarting under the loss of Alsace-Lorraine and willing to incur any risk in order to win back those provinces. There should be arbitration and a general disarmament, but how are they to be brought about? The terrible wholesale losses that will follow the use of modern arms in the next battle may possibly frighten any Power from going to war, or a great international society of working men may be formed in which the members bind themselves and their children not

to enter any army. The unspeakable horrors of war are generally recognised, but how to bring about a general accord among nations that it shall cease—how is that to be accomplished?

Commercial Organic Analysis By ALFRED H. ALLEN, F.I.C., F.C.S. Second Edition, Revised and Enlarged. Volume III, Part II. London: J. & A. Churchill. 1892.

CHEMISTS and especially analytical chemists have been eagerly awaiting the appearance of this volume which deals with the amines and ammonium bases, the hydrazines, the bases from coal tar and that important group of bodies, the alkaloids. It marks with singular prominence the great advances that have been made in analytical science during recent years. Ten years have elapsed since the publication of the last edition of that part of "Commercial Organic Analysis" which treated of alkaloids and tar bases. These subjects then occupied about 120 pages. In the present edition more than 570 pages have been devoted to only a part of the same subject matter, the sections on animal bases, cyanogen compounds, and proteids being reserved for separate issue in Part III. When Mr Allen undertook the task of writing a complete work on the analyses of substances belonging to the organic section of chemical science, he could hardly have anticipated the enormous labour which such an undertaking must since have entailed. In spite of this he has practically completed his task, and with admirable tact he has dealt with those peculiar difficulties which beset the completion of a work extending, as this has done, over a period during which new analytical operations have been events of almost every day. How far the facts and materials are "up to date" may be gathered from page 520, where reference is made to the adulteration of Canton tea as recently as August, 1892. Nor are the articles in the work confined to the mere description of analytical processes. Recently acquired information of the most practical and valuable kind is to be found throughout the pages of the book, embracing facts, it is true, which have already been placed on record in current scientific journals, but which have never yet been embodied in the ordinary reference manuals of the analytical chemist. This is more particularly the case with those fine products which the investigating chemist has recently placed at the disposal of pharmacy and medicine. We refer to some well-known antipyretics, febrifuges, hypnotics &c. Thus an account of antipyrin and its properties occurs on page 32, of acetanilide, or antifebrin, on page 68, of phenacetin, on page 81, of pyridine, from which many alkaloids are derived, on page 99. Many well-defined tests as to the purity of these products are for the first time described. But by far the greater part of the volume is devoted to the alkaloids, and, apart from the excellent processes which are described for their separation and the means of recognising them by an admirable series of colour tests, their history, character and constitution will probably afford still more interesting reading. A reference to the synthetic production of two distinct basic substances isomeric with quinine is a case in point. A considerable portion of the section on nicotine is devoted to the chemistry of tobacco and tobacco smoke. According to Vohl and Eulenberg the nicotine of tobacco (from 3 to 7 per cent.) is completely decomposed during the process of smoking, and the intense action of tobacco smoke on the nervous system is probably due therefore to the presence of bases of the pyridine series. The smoke from tobacco varies in character, we read, according to the proportion of air admitted during combustion, oxidation being necessarily more perfect in the case of a cigar than when the tobacco is smoked in a pipe. In the latter case a portion of the condensable products is deposited in the liquid state. Tobacco smoke, it would appear, consists in part of permanent gases, the proportions of carbon dioxide and carbon mon-

THE LANCET.

LONDON SATURDAY, JANUARY 14, 1893

ONE of the points to which the attention of the Home Secretary was especially invited by the important deputation on burial and sanitary reform which he received last week was the desirability of placing all matters relating to public health under the control of one Government Department having a Minister of Public Health as its head, and this was enforced by a quotation from a letter which Sir GEORGE BUCHANAN had addressed to Sir, SPENCER WELLS to the following effect "Pray get your colleagues to feel the idiocy of confiding to half a dozen separate Ministers the one dominant problem of securing health to the population of the United Kingdom."

The deputation urged upon the Home Secretary the grave risk to public health which is attendant on the existing methods of disposing of the dead both before and at the time of burial, and they could hardly have chosen a topic better serving than this to illustrate the evils of the present system of health government in this country. The Home Secretary has, it is true, a Burials Department in his office, but on the other hand the provision of cemeteries is now very largely a matter with which the Local Government Board are concerned. New cemeteries provided by local sanitary authorities are subject to inquiry by the latter department, who sanction loans for the purchase and preparation of the necessary land, and it is to the Local Government Board who have compiled model by laws as to the management of cemeteries that the authorities making any such by laws must go for sanction. The deputation also appealed for inquiry into the effect and influence of burial grounds and cemeteries on health, and Mr ASQUITH practically promised that such inquiry should be made by competent persons. Here again the Local Government Board have already in some measure intervened. Some few years ago a "Memorandum on the Sanitary Requirements of Cemeteries" was prepared in the Medical Department of that Board by Dr FRANKLIN PARSONS, and is now regularly issued as an authoritative document by the department. A glance at it will show that the department must already be in possession of a large amount of material such as the Home Secretary is now asked to obtain, and a staff of competent inspectors are already available to continue the work in additional directions if need be. Then again, when Mr ASQUITH was asked to deal with the question of mortuaries he had to explain that Parliament had already vested compulsory and other powers as to mortuaries in the Local Government Board, and he might have added that that Board granted loans for their erection and had issued model regulations as to their construction and management. Lastly, the deputation appealed for proper certification of the causes of death. Here Mr ASQUITH pointed out that he should have to consult the President of the Local Government Board. For any action which is needed in respect of certificates of death must be carried out by the Registrar General, who is

an official attached to that department, since amongst the matters which were transferred from the Secretary of State to the Local Government Board under the Act of 1871 was that of "Registration of Births, Deaths and Marriages." In short, the wonder is that the deputation went to the Home Secretary. The reason probably was that he being a Secretary of State, whilst the President of the Local Government Board has not that dignity, it was assumed that the comparatively trivial concern the Home Secretary had in the matters brought before him would be outweighed by his more dignified position in the Cabinet, and so long as the one subject of dealing with the dead is divided, however unequally, between two large departments of Government deputations desiring reform will doubtless select the Minister whose status gives him most influence.

The above named considerations bring us to our next point. Sir GEORGE BUCHANAN had in general terms talked of half a dozen Ministers having to do with public health. Mr ASQUITH stated that "the supervision of the public health, so far as the central government is concerned, is to all intents and purposes in the hands of two departments—I do not think more than two—this [the Home] Office and the Local Government Board." But Mr ASQUITH is in error, the control of public health matters is much more divided than he supposes. Apart from the question of burials, the Home Office and the Local Government Board both have to deal with questions affecting the housing of the working classes. One office works under one set of statutory provisions and the other office under another set. The Local Government Board have an organised staff for their inquiries, the Home Office have to call in outside help when they hold an inquiry into the subject. Another matter affecting public health is that of factories and workshops. Here, again, matters are somewhat, though less, confused. Medical officers of health have certain functions appertaining to certain workshops but the brunt of the administration is borne by the Home Office. Another example of our complicated system relates to quarantine. The Quarantine Act is administered by the Privy Council who maintain a single quarantine station and staff. If a vessel with yellow fever on board happens to run into Southampton the Privy Council deal with it under the Quarantine Acts, if it runs into Swansea they leave it to the sanitary authority to perform their duty as regards this disease much as they would as regards any other infectious ailment. On the other hand, the Local Government Board will have nothing to do with quarantine, they exert themselves to prove its uselessness and the vexatiousness of its restrictions, and they will not listen to authorities who panic stricken about cholera, plead for the renewal of detentions which have now been abandoned for some forty years in so far as that disease and this country are concerned. We come next to the new Agricultural Department. They deal with a number of diseases which affect the lower animals, such as horses, cows, pigs &c., and which also affect the human subject. Anthrax, tuberculosis, trichinosis and the like come within their purview. But all their regulations are made under statutes which are only concerned with the spread of disease among the lower animals, they do not profess even to be able to act when the milk of the affected cows produces tubercle in the human subject, and until quite

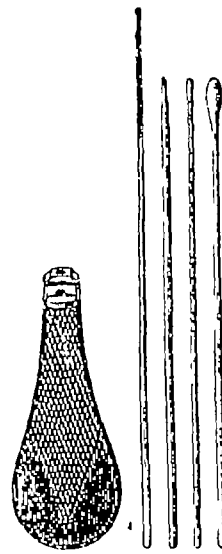
account. It shows one week on every page, has an alphabetical list for addresses, and a space for notes for 1894, notwithstanding this, its small and convenient size renders it absolutely unobtrusive in any pocket. Wallet cases suitable for holding the A B O Pocket Diary and Memorandum Book are provided at a small cost.

New Inventions.

AN IMPROVED LACRYMAL DIRECTOR AND PROBES

ALTHOUGH I think it highly undesirable to add unnecessarily to the already heavy armamentarium the ophthalmic surgeon has to support I wish to call attention to a slight modification of some lacrymal instruments which I have found useful. I have experienced, and often seen others experience, some difficulty in accurately manipulating the director which is ordinarily sold as Bowman's, because it is

too slender and does not offer sufficient bulk to be comfortably grasped by the fingers. I also have remarked that most of these instruments are too thick at the point to pass into many puncta, and have frequently found it necessary to enlarge the aperture before the director could be passed. To obviate these inconveniences I have had a handle constructed into which the proximal end of the director can be clamped whilst it is being manipulated and I have had the distal end of it made to terminate in a small button like the end of a Weber's canaliculus knife. After the canaliculus has been slit up and the lacrymal sac opened the handle can be detached and fixed to any probe which it may be considered desirable to pass, much facilitating this process by giving a better grasp and enabling the instrument to be directed with greater accuracy—a point of importance when power has to be

exerted. The probes are made of pewter and are of a con-

 bent and moulded to suit the exigencies of each case. They vary in form both as to their thickness and extremities, and are so inexpensive that with out-patients they may be left *in situ* instead of the ordinary leaden styles now so much in use. The accompanying engraving well illustrates the modified instrument, which has been manufactured for me with excellent finish by Messrs Wood and Co of York.

C S JEAFFESON, M D St. And., F R C S Edin.,
 Senior Surgeon to the Northumberland Durham and
 Newcastle Infirmary for Diseases of the Eye.

COMBINED THERMOMETER, PENCIL AND CHART TABLET

MESSRS. SALT AND SON, Birmingham, have brought under our notice a very handy little registered case containing a thermometer and a pencil with a celluloid tablet on which to record



the temperature, thus saving the necessity of separate charts. The pencil is always at hand. The case is neat, compact and well finished in aluminium bronze and will be found useful to the medical practitioner.

"IMPROVED TOILET SPONGE AND TOILET GLOVE."

MESSRS. CRESSWELL BROTHERS AND SCHMITZ, Red Lion square, London, have forwarded us two novel toilet accessories, named respectively the ablutonic loofah backed sponge and the ablutonic toilet glove. The former is a combination of an ordinary sponge and a selected piece of loofah (*Luffa Egyptica*), and is made in a variety of sizes for bath and toilet uses. This arrangement renders the loofah much more handy for purposes of friction, and as it is placed over the root, the weakest part of the sponge, its durability is prolonged. The toilet glove is made of a very soft kind of Turkey sponge on one side and loofah on the other, both sides being securely and neatly fastened together. The sponge presents a fine surface, while the loofah can be used for rubbing the skin.

Pharmacology and Therapeutics.

ANTIPIRYN IN LEAD COLIC.

MM. Devic and Chatin have found antipyrin given in quantities of sixty grains daily in divided doses very serviceable in lead colic, both in its milder and in its more severe forms. They consider it far superior to other drugs, except belladonna.

ARTIFICIAL CAMPHOR.

A French chemist—M de Mare—has devised a method of preparing camphor artificially. Camphor ($C_{10}H_{16}O$) is prepared by distilling very dry hydrochlorate of terebinthine, the product is collected in a large globe and heated, ozonised air being then introduced so as to mingle with the vapour formed. This results in a cloud of camphor ($C_{10}H_{16}O$), which becomes deposited on the internal surface of the globe. It is expected that the method will prove a great commercial success.

POISONING BY EXALGINE DISPENSED INSTEAD OF QUININE.

A somewhat novel error on the part of a pharmacist is reported in the *Gaceta Medica Municipal* of Havana by Dr Francisco Reynery. A boy two years of age, who was suffering from malarial fever, was ordered some quinine powders, one of which was to be taken every two hours. The powders dispensed, however, contained, as was afterwards discovered, five grains of exalgine. The first dose was stated to have been almost entirely vomited about half an hour after being taken, some prostration and two more attacks of vomiting followed. The second powder was given three hours after the first and produced such serious symptoms that the mother sent hastily for the practitioner in attendance informing him that the child had been poisoned. When he arrived an hour after the second powder had been given he found the child's face and hands of a dark blue tint, which was still more marked in the nails, the scrotum and the penis, the right half of the lower lip and of the tongue was black, there was copious vomiting of mucus and sweat standing on the head and the upper part of the body, the pulse could not be counted, the heart's sounds were confused, the epigastrium pulsated, and the veins of the neck were very marked, and indeed had been still more so, according to the mother's statement, the carotids were pulsating and swallowing movements were frequent, the epigastrium was tender upon pressure. The child had passed some dark grey urine containing traces of albumen. The symptoms appearing to resemble those due to acetamide the practitioner prescribed coffee and brandy, an enema containing ether, and a stimulating liniment to be rubbed over the whole body. On inquiry at the pharmacy the exact nature of the dispenser's error was discovered. Further examination showed that sensation in the lower limbs was diminished. After a few hours the discoloration had become decidedly less, the temperature, which had been a degree below normal, had become normal, the sweating was confined to the forehead, there was considerable thirst, but no more urine had been passed and there had been no more vomiting. The next day some dark urine was passed which contained a considerable amount of albumen, the colour was increased rather than diminished by heat and by the addition of an acid. The discoloration of the skin, the want of sensation and the other symptoms gradually disappeared and by the end of ten days the child was convalescent.

overtakes the female, both being 217 years, while at the age of 100 the female once more forges ahead, having a life prospect of 176 years as against 168 for the male. These figures can hardly be arbitrary or misleading and we may safely infer that the conclusion which they warrant is truly a natural law. As we have indicated, we are disposed to look for its explanation rather to the circumstances and modes of life of the two sexes than to any structural or sexual peculiarities.

The short histories of long lived persons detailed by the *Morning Post*, while interesting from the point of view of biography and anecdote, hardly warrant any scientific deductions. There are few subjects upon which more nonsense has been written than upon the means of attaining long life. The "elixir of life" delusion has had many parallels hardly less absurd. Centenarians are conscious that they are objects of general interest. They are not averse to being interviewed and they often attribute their own longevity to the most fantastic causes. A notable French centenarian not long ago ascribed his great age to the fact that he had never eaten fish. Others look for an explanation to their morning cold bath, or some trifling peculiarity of clothing or habit. It is useless to discuss such theories, which are outside the sphere of serious argument. Longevity is probably in the main a hereditary endowment and next to heredity the most potent favouring causes are probably a regular, simple and well ordered life, fresh air, plain food, temperance, and congenial occupation without drudgery.

There can be no doubt that the average duration of human life is rising steadily among civilised nations. Hygiene, medical science, the general spread of refining and moderating influences, education and the mitigation or removal of many of the plague spots of humanity share in effecting this change. Allowing for the fact that more than formerly we preserve ailing lives and prolong the duration of incurable diseases, it seems probable that, as men and women now live longer lives than formerly, they also live on the average healthier, more useful and happier lives than their forefathers.

THE meeting of Convocation of the University of London on Tuesday next will be of especial interest and importance. The members will then elect three persons and the one who has the largest number of votes will, in accordance with the usual custom, be selected by the Crown as a Fellow of the University. The existing vacancy on the Senate will, in the regular routine, be filled by a graduate in medicine or in science. Mr A. W. BENNETT, Dr W. J. COLLINS and Mr H. G. HOWSE have been put forward as candidates, and it is apparent from a glance at the lists of their respective supporters that, while Mr BENNETT will not probably be a very formidable opponent, the contest will be a very keen one between the other two. It will be decided on a very plain issue, for as both Dr COLLINS and Mr HOWSE have given evidence before the Gresham Commission, their views on the University question are well known. Dr COLLINS advocates most strongly the necessity of maintaining the existing high standard of the degrees of the University, and is a keen supporter of the policy recently approved by the majority of Convocation—namely of preserving every right and privilege now exercised by Convocation, including the right of veto,

indeed he would still further increase its power. Mr HOWSE is in sympathy with the movement for the formation of a Teaching University in London, and in May, 1891, voted for the scheme of the Senate, which would have admitted the Royal Colleges of Physicians and Surgeons to coöperation in the examination for medical degrees. In other words, whilst Dr COLLINS would still allow the existing grievance of the London medical student, in not being able to obtain a degree on similar terms to those afforded students in the provinces and in Scotland to be perpetuated, Mr HOWSE would favour some modification of the present examination system and teaching by which this injustice might be removed. Mr HOWSE is supported by a large majority of the graduates in medicine—viz., 356 against 130 on Dr COLLINS's list, omitting those who have signed both nomination papers.

In addition to the election of a Senator Convocation will be asked to approve a new scheme for the reconstitution of the University which has been recently passed by the Annual Committee. A draft report which has been circulated with the agenda at once shows that Convocation by passing the new scheme will render all compromise with external bodies impossible. It states that there must be only one University in London and that the existing University must therefore add teaching to its present functions. The teaching institutions must not be federated but coördinated under one head, and the University is not to recognise institutions as a whole, but particular teachers or courses of instruction either in the teaching institutions or outside them. Convocation is to have a representation of twelve members in a Senate of forty, to retain its present powers, rights and privileges, and to appoint at least two members on each board of studies. A Faculty of Divinity in addition to the present Faculties is to be formed. The remedy suggested for the medical grievance is simple and only needs to be mentioned—viz., the other Universities should cease to confer the M.D. degree on such easy terms, or if such degrees must be granted, they should be conferred without the necessity of residence. We commend these views to the authorities of the Scotch and provincial Universities.

For the creation of a University professorate and a staff of teachers and demonstrators the Senate is to have power to appoint members of the teaching staffs of the Colleges or other higher educational institutions as University professors, teachers and demonstrators, with endowments from the funds of the University (which are apparently expected to come from the City Corporation and the London County Council), on condition that the appointment to such chairs, whenever a vacancy occurs should pass to the University. The Teaching Colleges and the Medical Schools are therefore expected to give up their autonomy, whilst certain of their lecturers and teachers are to be formed into a select class and to be labeled by the Senate of the University as University teachers in medicine, surgery &c., and in the various branches of arts and science, and these appointments are practically to be made irrespective of the governing bodies of the schools and colleges. Such a scheme shows a hardy belief in the capacity for greater developments on the part of a reformed Senate, in which Convocation will have increased power, but it is scarcely likely to be seriously considered by those who are now responsible for the efficiency and work of the Teaching Colleges and of the Medical Schools.

recently, when a new order as to anthrax was issued, they did not even require their staff to inform the health officer of the existence in a given locality of a disease so fatal to man as anthrax. But the moment a man contracts one or other of these diseases—in fact, when the mischief which ought to be avoided has already been brought about—then the Local Government Board is appealed to, and our readers must have seen how almost hopeless has been the task of prevention in numberless outbreaks owing to the confused functions of the two departments. Well may the deputation appeal for unity in the administration of laws affecting the public health.

We do not here discuss in any detail the actual proposal as to a Ministry of Health. Mr ASQUITH, asked to advocate unification of departments, only replied that he objected to their multiplication. Here politicians and administrators will agree with him. New departments start well, but their status is not always maintained. The first Minister of Agriculture was in the Cabinet, but the next one found no place there. A new Minister could hardly be accorded the status of a Secretary of State, whereas public health considerations are becoming so important that the Minister responsible for them ought to have such rank. For this reason alone it has been suggested as a better and a more feasible scheme that the Home Office, which is now but little more than a Ministry of Justice, should be made such in reality, and that the subordinate functions it performs as to burials and housing of the poor, as also those relating to factories and workshops, should be handed over to the Local Government Board as a Ministry of the Interior, and that the chief of this Department should be a Secretary of State. Quarantine functions would naturally be swept into the same net in order to be abolished, and some very necessary changes could be made as to dealing with the diseases of animals which have any bearing on the health of man. We do not profess to indicate now which is the better administrative method, but would advise our readers to consider carefully both schemes and to judge which would be most likely to lead to the desired end and which would stand the best chance of being carried into effect.

OUR contemporary the *Morning Post* has taken the trouble of tabulating all the cases of exceptionally long life recorded in its obituary columns during the past year and of giving such particulars as are available regarding the various centenarians included in the list. It is not to be expected that results drawn from an exceptional and limited field should possess any high scientific importance, but the facts recorded possess considerable interest and may suggest some reflections not without value. In dealing with such facts we are always beset with the difficulty of deciding whether some apparent conclusion is really a natural law or only an erroneous generalisation which would be corrected by a wider induction. Thus, when we find that the percentage of those who attained the age of eighty and upwards was only 6.7 in 1892 as compared with 16.6 in 1891, 12.6 in 1890, and 15.5 in 1889, it would be very rash to conclude that there was any general decline of longevity. No doubt, this low figure is an accidental fluctuation and requires to be read in the light of the averages of a long series of years.

The octogenarians recorded in these tables numbered 1151, and it is found that of these 505 were males and 646 females. It appears, also, that at all ages above eighty, with perhaps a casual exception or two, the proportion of long lived females exceeds that of long lived males. Thus, 63 women died in their eighty first year, as compared with 60 men, 75 women died in their eighty third year, as compared with 63 men, 48 women died in their eighty sixth year, as compared with 34 men, 26 women died in their ninety first year, as compared with 17 men, 5 women exceeded the limit of 100 years, as compared with one man. A ratio so steadily maintained as this must possess some significance, even making every deduction for the limited nature of the data, and we are naturally inclined to seek for some explanation. We are disposed to find the explanation, not in any sexual peculiarity, but rather in the different circumstances which characterise the lives of elderly men and elderly women. While there are many exceptions, there can be no doubt that on the whole women lead easier lives than men. Their occupations, however harassing and engrossing, are still in the main much less laborious than those of men, and, in addition, women are as a class largely removed from many of the gravest perils which shorten the lives of men in various occupations. The army, the navy, the mercantile marine and a majority of the most noxious trades employ men only, and it may be said that there is hardly any single occupation of exceptional risk which is carried on exclusively by women. Sick nursing, which might be thought to be an exception, is, on the whole when properly organised, a healthy occupation, the regularity of life and habit, the knowledge possessed by the trained nurse and the high *morale* required of her more than compensating for the risks arising from frequent contact with infectious disease. Women, especially when they are advanced in years, are largely removed from conditions which imperil longevity in men. A woman over seventy who still works laboriously for her living is fortunately an exception, whereas most men, even when there is no absolute necessity, dislike the idea of retirement and inaction, and work on preferring to die in harness.

The influence of sex upon the duration and prospect of life is an interesting subject upon which we possess a good deal of information. As is well known, the proportion of male births definitely exceeds that of female births in the proportion of 30 or 40 per 1000. The mortality of males in early life exceeds that of females, while in middle life the perils incidental to child bearing swell the rate of female mortality. In advanced years again, as we have seen the expectation of life is decidedly somewhat better in the female. Dr OGLE, in the life table compiled from the mortality returns of the years 1871–80, shows that at birth the expectation of life is 41.35 years in the male as compared with 44.62 in the female. At each succeeding point the female average keeps steadily ahead. Thus, at five years of age a boy may hope for 50.87 years of life, while a girl may hope for 53.08, at the age of ten the respective prospects are 47.60 for the male and 49.76 for the female, at the age of twenty the figures are 39.40 and 41.66 respectively, at thirty they are 32.10 and 34.41, at fifty 18.93 and 20.68, at seventy 8.27 and 8.95. Curiously enough, at the age of ninety five the male average

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Annotations.

"Ne quid nimis."

ALLEGATIONS AGAINST HOSPITALS

THE first two weeks of this year have been marked by the appearance of an unusual number of complaints against hospitals, and we feel compelled to again strongly record our protest against the manner in which they are brought forward and the undue prominence which is given to them. The art of magnifying trifles must be of great value to the newspaper man who has a sensation to work up. Moreover, it is always possible to strike at a hospital by bringing charges against it, for should the charges be false the hospital has no remedy. It is safe to hit those who cannot strike back. Newspapers should avoid saying anything likely to damage institutions which exist only for the benefit of the sick poor, but should rather use every effort to help and protect them. The Poplar Hospital for Accidents has recently been attacked and the ultimate result of the inquiry has been to clear the authorities of all blame. The termination of the inquest at which the charges were brought forward was marked by an unusual incident, the coroner himself gave five guineas to the funds of the hospital, thus marking in the most public manner his appreciation of the benefits conferred by the institution on the poor of the district in which it is situated. This hospital, dependent on voluntary contributions and located in a poor neighbourhood, cannot afford to have charges, however unsubstantiated, brought against it, for they result in loss of income and therefore loss of efficiency. The income is already inadequate, but the utmost possible is done with what is available, and there are few institutions more deserving of support. There are three things in connexion with hospitals that it is difficult to make the public understand—one of these is the fact that without funds the number of beds cannot be kept up, and some one must therefore occasionally be sent away because there is no room, another is that the management of the hospital must be left in the hands of those responsible for it, whose duty it clearly is to act for the good of the largest number, and the third is that the parish (and not the hospital) is responsible for the sick poor living in it. When the treatment required by any particular patient can be carried on equally well at home or elsewhere hospital authorities are quite right in sending away such a patient—provided it can be done without risk—in order to make way for another to whom the special care of the hospital may mean rescue from death. There has been some talk of the formation of a society for the protection of hospital patients, the person with whom the idea (what an idea!) originated would find plenty of employment for his surplus energy if he were to form a society for the protection of the institutions which exist simply for the benefit of the poor. Perhaps if the newspapers at fault in bringing forward these allegations were really compelled to apologise the apology would only be gracelessly rendered, as a memorable excuse for similar conduct was once given—"When you have to get up a sensation daily you must make a mistake sometimes." But even the best apology could seldom make amends for the harm done. "Save me from my friends!" may well be the cry of the poor man.

YEARLY RECORDS OF THE PROFESSION

THE advent of a New Year is marked in the medical profession by the appearance of a new Medical Directory¹ and, more tardily of necessity, of the Medical Register for the

year. It is a common custom with us to analyse the principal statistics of the profession and its growth as illustrated in the columns and tables of the Medical Register. This, indeed, is the authentic roll of the registered practitioners of this country and its dependencies and for this and other reasons is invaluable. But we must wait some months for this important book, and meantime we are fain to study the one which comes first to hand and which, indeed, makes a creditably prompt appearance in the first week of the year. It is noticeable that these separate and perfectly independent lists of practitioners do not altogether agree as to the numbers of the profession. Thus for the year 1892 the Directory gave as the numerical summary of the profession 30,035 while the Medical Register of the same year gave 29,555, being a difference of 480. There are other differences in the works which give to each its peculiar value. In the Register the whole profession is given in a continuous alphabetical list, while in the Directory it is divided very conveniently for the reader into a section for London, the Provinces, Scotland and Ireland respectively, for Practitioners Registered Abroad and for those in the Naval, Military and Indian medical services (excluding those which appear in other lists). There is a startling feature in the summary of practitioners for the year as given in the new Directory—viz., an increase in the numbers for the year of no less than 724. Thus in 1892 there were 30,035, in 1893 30,759. In Ireland the increase in the number of practitioners is only 5, from 2445 to 2450, in Scotland it is 124, from 2850 to 2974, in the provinces 377, from 14,026 to 14,403, in London 114 from 5293 to 5407. We shall wait anxiously for the Register to see how far it supports this representation of an addition in one year of 724 to an already overstocked profession. The publishers of the Medical Directory issue a circular yearly to every practitioner for the data of his description, failing a reply, they insert his name, but indicate that no return has been made by an asterisk, which denotes uncertainty as to the facts. These asterisks are in some pages pretty numerous, amounting sometimes to about 13 per cent and sometimes to about 18 per cent, as we find by a cursory glance. Another source of possible error is the non elimination of deceased members of the profession, but, after making all possible deductions, it must be admitted that there is an ominous growth in the numbers of the profession, out of proportion to the growth of the population or of its needs. But the figures respecting the numerical strength of the profession are only a small part of the interesting information with which this volume abounds and which makes it an indispensable element in the library of a medical man. It must be admitted that its description of a medical man and his status is more complete than could possibly be given in a Register which is restricted by Act of Parliament. Not only are a practitioner's qualifications given, but the schools at which he has studied, the appointments he holds, the societies with which he is connected and his contributions to the literature of the profession are noted. A very valuable feature of the Directory is the Local List which precedes the List of Names both in London and the provinces. It is interesting to notice that of the whole number of medical practitioners 5502 are engaged abroad or in the Naval, Military and Indian services. It would take too long to enumerate the various sections of the Directory devoted to abstracts of chief Medical Acts, the medical schools of the three divisions of the kingdom, the Sanitary Medical Service, the Local Government Medical Service, and the hospitals, dispensaries and lunatic asylums of the various counties. It is interesting to notice that the obituary list of the profession given in this volume, purporting to be the deaths from November, 1891 to 1892, amounts to 631 deaths. This number very closely corresponds with the numbers generally given in the Medical Register. The Registrar, it is known

¹ The Medical Directory, 1893. London Provinces Scotland Ireland &c 49th annual issue. London J & A. Churchill, 11 New Burlington street.

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Private and Confidential

No

APPLICATION FORM

To the Almoners of the Lancet Relief Fund

The applicant should here state shortly —

1 The nature of the emergency that has arisen

2. The circumstances out of which it has arisen

3. The amount of the grant desired, and whether by way of loan (free of interest) or of gift.

4. If by way of loan, state when the loan will be repaid, and from what source the funds to repay it are expected to be forthcoming

5 Whether the applicant is entitled or able in the circumstances which have arisen to look to any other source for assistance, and if so, what is the expected nature and extent of such assistance

6 Whether the applicant is receiving, or has received during the past six months, pecuniary aid from any Medical Charity

7 State how the applicant is qualified to receive assistance, vide regulation* on first page.

8. Particulars of

Applicant's age _____

Number in family _____

How many are self supporting _____

How many are partially dependent _____

How many wholly dependent _____

Applicant's Signature _____

Address _____

Date _____

THE LANCET RELIEF FUND.

Name _____

Address _____

Received _____

Considered _____

Result _____

Date _____

takes advantage of all means for ascertaining the death of every medical man, and in the Register for 1892 gives 581 as the deaths for 1891. For the last sixteen years the average of deaths annually has been 570. For the last five years the average is 529. In four years only has the number exceeded 600. It speaks much for the care with which this information is gathered that it brings the list up to the highest possible figure. As our readers are aware the gaps made by death are always more than filled by the plentiful additions to the profession. In the year 1891 no less than 1345 were added. This does not diminish the pain with which many of the losses have to be recorded, but it relieves the national mind of the fear of any scarcity in the supply of healers.

THE SPREAD OF SMALL-POX

TEN years have elapsed since the Royal Commission on Small pox and Fever Hospitals reported that "it is evidently of paramount importance that the areas of the small pox wards as well as their administration should be rigorously separated from those of the fever hospitals, and, further, that their construction should be such as to reduce within the smallest limits the chance of spreading infection." Since then we have repeatedly had instances of the spread of small pox from buildings in which cases of that disease have been aggregated. When Warrington attempted it recently the patients professedly under isolation in other pavilions contracted small pox, and now we learn that in Leicester the same thing has taken place. No less than fifteen scarlet fever patients contracted small pox in a so called isolation hospital and the scarlet fever wards had to be closed. The time has surely arrived for adopting some reasonable action as to the isolation of small pox in the provinces, for the disease is still extending in many parts of England. Last week brings news of three fresh cases at Batley, three at Dewsbury, three at Bootle, five at Chadderton, seven at Oldham, seven at Barnsley, four at Rotherham, five at Huddersfield, four at York, six at Leicester, three at Southampton (the outbreak at which place is more fully dealt with elsewhere) twenty one at Manchester three at Wakefield, and there have also been smaller outbreaks at Bradford, Halifax, Birkenhead, Liverpool, Lancaster, Birmingham, Derby, Darlington, Swansea, Bakerswell, Bedale, Durham, Castle-Bytham, Louth, Pontefract, Runcorn and Denaby Main. Nine cases are now under treatment in the last-named place.

DECAYING HUMANITY IN OUR CHURCHES

A letter appeared in *The Times* some days ago from Major Joseph, the churchwarden of St. Antholin's parish for upwards of twenty years. In it he describes his action as regards the bodies interred in the vaults of the church at the time of the removal of the building. He found upwards of six hundred coffins, nearly every one of which was in precisely the same state as those described as being in the churches of St. Mary Woolnoth and St. Mary at Hill. "I placed," he proceeds, "every coffin in a new outer shell, and instead of going to the expense of removing them to Ilford I enlarged the rector's vault at the end of the church and there deposited the coffins, making a register of such. The work was performed under the superintendence of the late Dr. Tidy and Dr. Sedgwick Saunders, under whose orders large quantities of carbolic acid were used and a small ration of rum was served every two hours to the workmen employed. We had no case of sickness and neither the public nor the friends of the deceased were in any way shocked. I write this in the hope that you may be able to spare space for its insertion and that it may be useful to the churchwardens of the two before-named parishes and be the means of saving outlay to the parishioners." While giving every credit to Major Joseph

for this economical mode of meeting a serious difficulty we must express a preference for the entire removal of human remains from the heart of the City to some suburban cemetery. As a matter of fact, some such experiment as he made so successfully was tried in one of the churches to which he refers, with the result of making matters worse instead of better. Burial in the earth, not entombment, must be considered as the order of the day, subject to the searching inquiry which will probably soon have to be made into the whole matter.

APPOINTMENTS TO THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD

SOME delay is being occasioned in the final selection of inspectors by which the Medical Department of the Local Government Board is to be reinforced in view of the increased duties which will be involved in consequence of the prospects of cholera during the current year. But we understand that three of the intended appointments have now been made for a period of one calendar year. The gentlemen thus appointed are Mr. Evan Evans, D.P.H., now assisting in the health department of Bethnal Green, Dr. Thomas Horne, formerly medical officer of health for Sandwich, and Dr. Hector McLean Wilson, assistant medical officer of health for Leeds.

UNQUALIFIED PRACTITIONERS IN HULL

THE deputy coroner for Hull made some strong and proper observations a few days ago in commenting on the case of a child four years and a half old, which had been taken by its parents to the surgery of Dr. Haynes, but was attended by Mr. E. H. Knight without authority or qualification to practise medicine. He was not even an assistant to a qualified practitioner, but used that surgery two years and a half after Dr. Haynes had left it in such a way as to mislead the public. The deputy coroner made an important point in his remarks. We are apt to think that it is only by the false use of titles specified in the Medical Act that the public is misled, but the word "surgery" on a sign or a brass plate is as misleading as the word "surgeon", and the coroner expressed himself greatly astonished that there should be in a populous street a gentleman who had a sign above his door which led persons to believe that the premises were tenanted and used as a surgery while they were occupied by a totally unqualified man.

IMPORTANT PROSECUTION UNDER THE MARGARINE ACT

THE chief sanitary inspector of Wigan, who is also inspector under the Food and Drugs Adulteration Act, has been remarkably active since his appointment. Quite recently he was the means of bringing to justice a tradesman in that town for exposing margarine as butter, the magistrates convicted and fined the defendant £20 and costs. Now he has had a much more important case—a gross case of fraud on the public, poor and rich. A woman dressed as a respectable farmer's wife was accustomed to attend the Wigan market on the most important market day—namely, Friday—and beside her stall of cheese and eggs she had a basket containing what she sold as butter in prints. He asked her what was in the basket and she said butter. He asked to see it and she picked it up and uncovered it, and it contained "prints" of one pound, this being a form in which butter is put up by farmers for sale. The inspector then wanted to buy some for analysis and thereupon the defendant said the basket did not belong to her, and that a woman had left it with her that morning. She could give no information regarding this woman. The inspector took charge of the basket. Two pieces of this so-

called butter were submitted to Dr Campbell Brown of Liverpool, and his certificate proved that one piece contained 10 per cent of water and 90 per cent of fats other than butter, and that the other contained 10 per cent of water and 82 per cent of fats foreign to butter. The town clerk, who prosecuted, described the case as one of the "very worst kind," the very nature of things leading the purchaser to believe that he was buying fresh butter. Mr Roocroft, the presiding magistrate, said the Bench thought it was as bad a case as could possibly be brought before them. The defendant came apparently from the country to the market-place, where fresh produce was expected to be sold, and the unsuspecting public would naturally think she was a respectable farmer's wife and that the articles she was exposing for sale were of the purest possible character. The defendant was fined £5 and costs. After paying the fine the defendant claimed the basket and the "stuff" it contained.

INFLUENZA

CASES of influenza are reported from various parts of the country. For example, in the West Riding of Yorkshire the county medical officer's return gives intimation of cases being notified to him from 31 sanitary districts (out of 160), which returns were received in the month of December. The summary of the past six months shows that in no month has it been entirely absent from the West Riding. A correspondent at Bedford writes that there have been "numerous cases of influenza in this town since the beginning of October. The type, on the whole, has been mild, so that the majority of cases have not been seen during the attack, but have come under observation for some complication or sequela. There have, however, been a few severe cases of pneumonia in children, evidently following a neglected attack of influenza." Similar testimony reaches us from Somersetshire, and cases are doubtless fairly distributed throughout the country. Nevertheless there is nothing at all approaching the visitation of the past year, nor is it likely to become so severe and extensive again for a generation. That influenza persists in some localities for long periods, or recurs at short intervals, is recognised by authorities, but its pandemic outbursts are relatively infrequent.

NEW YEAR'S CUSTOMS

IN Lancashire and probably in other counties in England, it is a general custom for tradespeople to give their customers Christmas and new year's "glasses," this custom extending even to letter carriers, policemen, carters and carriers in some villages. It is a most vicious custom and causes at times many unpleasant reminiscences. In towns the giving of drink to postmen and policemen is dying out, probably owing to the fact of the authorities discouraging it, with tradespeople and their customers it still exists. A most painful case of this sort occurred this year at Golborne, a village in Lancashire, near Newton-le-Willows. The subject of it became the cause of a coroner's inquiry. He was a single man nineteen years of age, living in lodgings and had only just arrived from Ireland. It appears that he was "keeping up" new year's day with some companions, and in the evening they adjourned to a well known public house, where a carousal took place. Other public houses were visited, the landlords giving what is termed "the new year's glass." In all, it is said, this boy—he can scarcely be called anything else—had drunk up to half past nine at night fifteen or sixteen glasses of rum. He then became so stupefied that he had to be carried to his lodgings in a helpless state. His condition getting worse, a medical practitioner was sent for, who used every effort to counteract the effects of the alcohol, but without effect, for the patient died at 2 A.M. on the next day. The verdict of the coroner's jury was to the effect that the deceased died from alcoholic poisoning, adding that they

exonerated the landlord from blame. It certainly would have been better if medical evidence had been called at the inquest, in fact, a case of such importance should have been one for a post-mortem examination and medical opinion, for notwithstanding the alcoholic intoxication other causes of death may have existed.

SPURIOUS VACCINATION IN BELGIUM

AT a recent meeting of the Belgian Medical Federation Dr Wibro gave an account of a strange kind of vaccination in vogue amongst the inhabitants of certain villages. The child is "vaccinated" in the usual situation with a needle which is charged by being previously inserted into one of the pustules which occur in pigeons in summer, which are vulgarly looked upon as small pox pustules, but which are in reality produced by mosquito bites. Of course, this vaccination is absolutely useless as a prophylactic against small pox, but it gives rise to cicatrices which at first sight may be readily mistaken for those of true vaccination. The false scars are, however, distinguishable from the true by being quite flat and not swollen or raised. They resemble, in fact, the scars following very superficial ulcers.

THE JOHNS HOPKINS UNIVERSITY (BALTIMORE) MEDICAL FACULTY

THE full organisation of this school has been delayed owing to the lack of necessary funds, but recently Miss Mary Garrett of Baltimore has given \$300,000 which makes up a sum of half a million dollars now in the hands of the trustees for the completion of the school. The biological, chemical and pathological departments have been organised for some years, under the charge of Professors Martin, Rensen and Welch. Three years ago, when the Johns Hopkins Hospital was opened, the medical, surgical and gynecological departments were placed respectively in the hands of Professors Osler, Halsted and Kelly. The chairs of anatomy and pharmacology are not yet filled. The curriculum suggested in the preliminary announcement will consist of a three years' science course (or its equivalent) and a four years' medical curriculum. The preliminary medical course of the Johns Hopkins University, which has already been a very popular one for medical students of the better class consists, in the first year, of physics, chemistry, English, history and physical geography, in the second year, biology, chemistry and German, in the third year biology, French, psychology, logic and ethics. Students who have passed French or German as a principal subject in place of Greek for the matriculation must substitute some other subject, such as Latin or mathematics.

FOOT-AND-MOUTH DISEASE IN CATTLE

THE sudden appearance of foot-and-mouth disease in a dairy at Barnsbury, North London, on Jan 1st has been a startling surprise and has caused much alarm and wonder. Its introduction is even more mysterious than the invasion of last year, the source of which was never satisfactorily traced, though it was ascribed but without reliable evidence, to imported cattle from Denmark. In the Barnsbury outbreak there is nothing whatever to fall back upon to account for its advent, none of the nine animals in the cowshed having been near any infected cattle or in any place where they could be contaminated for a much longer time than that of the period of incubation of the disease, consequently all kinds of surmises have been promulgated as to the origin of the malady, the most plausible of which perhaps is that the infection has been conveyed to them by some intermediate vehicle, such as litter or forage. But this is a mere suspicion, for which there is probably as little foundation as for any of the other hypotheses started to account for the unfortunate occurrence. As usual the spontaneous development theory has been

brought forward in response to the desire for information as to the outbreak, and an attempt has been made to prove that insanitary conditions will produce this and other infectious and contagious diseases of the domestic animals. This of course is a grave and dangerous notion which should at once be dispelled. Everyday experience, as well as the entire history of these communicable disorders, demonstrates that they cannot develop spontaneously, and that their existence and extension depend upon their virulent properties. Once destroy the virus which generates them and they are seen no more. The evidence in support of this statement is also lately overwhelming. No doubt insanitary conditions of dwellings and bad or improper food and management may predispose animals to the ready reception of the virulent agent, but without these disorders will not appear. And it must not be forgotten that animals living in the open air, on wide plains, suffer from such diseases and sometimes most severely. Just now foot-and-mouth disease is causing great apprehension because of its rapid advance in South Africa, where the immense herds and flocks are never housed, and in the same region, as well as in our Australian colonies, contagious pleuro-pneumonia of bovines has proved a ventable scourge among the roaming herds. By all means let the sanitary condition of animals in the United Kingdom be improved, but let us also stamp out the virulent principle of contagious diseases and prevent its introduction from countries beyond our sea boundary.

DIPHTHERIA, SCARLET FEVER AND MEASLES IN THE CHELMSFORD DISTRICT

For the past three months an extensive epidemic of measles throughout the Chelmsford and Maldon Rural Sanitary Districts has prevailed, and a considerable number of schools have had to be closed for this reason. In certain parishes complications have arisen on account of the prevalence of diphtheria and scarlet fever also. In the village of Stock, during an epidemic of measles, a case of scarlet fever and diphtheria was introduced, and by the agency of the schools the latter diseases spread amongst the children. Unfortunately the scarlet fever was not at first recognised and children from infected families continued to attend school until they were closed on Nov 1st. Since then about forty cases of diphtheria have occurred, in several instances complicated with scarlet fever and in others with measles, and there is reason to believe that in one or two cases the patients had all three diseases for all three were prevalent in certain families at the same time. Dr Thresh is about to issue a detailed report of this interesting outbreak. Fortunately only two deaths have resulted from diphtheria and one from scarlet fever (in Stock) and no fresh house has been attacked during the past month.

THE YERBURY-ROAD SCHOOLS

THE magistrate of the Clerkenwell Police-court Mr Horace Smith, after hearing the evidence on both sides as to the drainage of these schools and having paid a visit to them for the purpose of personal inspection, has given an order for the changes and repairs required by the vestry of Islington. It is to be regretted that this order was necessary and that the board should have resisted the wishes of the vestry. It will be noticed that the vestry, through its officers did not commit itself to any dogmatic assertion as to the connexion of the leaking and almost horizontally laid pipes with the causation, or even with the prevalence of diphtheria in the schools and Mr Smith wisely intimated from the first that he would not go into this question. He restricted himself to the question of the efficiency and soundness of the drains, and even on the admissions of the officers of the School Board only one conclusion was possible to a magistrate. It is perhaps

impossible to prevent schools becoming the medium for circulating a great deal of disease, but this evil must be reduced to a minimum. Certainly coarse structural defects must be remedied and drainage must be above suspicion. While we regret the collision of the medical officers of the School Board and the vestry, we cannot regret that this battle has been fairly fought out in open court. It will tend to prevent such collisions in future, and it will perhaps also tend to enlighten the public as to the limited power of public bodies like the School Board to control building operations. The public seems inclined just now to impose on such bodies, made up for the most part of men busily engaged in private affairs, an indefinite amount of work. If this is not checked and the work of public bodies somewhat proportioned to the leisure and the ability of their members great public evils must result.

EFFECT OF CHLOROFORM ON LABOUR

THE exact effect of chloroform inhalation on the contractions of the uterus during parturition has been recently experimentally investigated by Dr Dönhoff in the Kiel Obstetric Clinic by means of an india rubber bag passed into the uterus, communicating with a recording manometer, a kymograph and a mercurial manometer by means of a tube which, together with the india rubber bag, was partially filled with water. He finds that a slight degree of chloroform narcosis has a paralyzing effect on the uterine contractions, the pressure falling to nearly half what it was previously. If the chloroform is stopped the pressure during a pain increases, but at first to only about two-thirds of the original pressure. In two of the cases observed the initial pressure was not regained until two hours after the cessation of the administration of chloroform. In cases where the abdominal muscles assisted the uterine contractions to only a moderate extent this auxiliary was entirely arrested by chloroform even when the patient was only partially under its influence, but when the muscles exerted a great deal of force their action did not entirely cease unless the patient was fully narcotised. The intervals between the pains were prolonged by chloroform, so that when the patient was partially anaesthetised the number of pains in a given time was diminished by 20 or 25 per cent.

SURGEON-MAJOR KING, I.M.S.

MUCH indignation appears to exist in India at the treatment to which Surgeon Major King has been subjected by being transferred from civil to military duty by an order of the Government of Madras to that effect, which has since been confirmed by the Government of India. It seems that Surgeon Major King made certain experiments by which he was able to prove that small pox virus obtained from the vesicles of a patient suffering from that disease produced cow pox attended with some constitutional symptoms and a rise in temperature, in healthy calves when inoculated therewith; and further that, by the aid of lanoline, vaccine lymph can be kept in a good and efficacious condition for months whereas it has been found difficult in India to preserve the vaccine lymph under other methods. The scientific interest and practical value of these observations cannot be doubted, and most persons would consider their author entitled to great credit. As far as the results of Surgeon Major King's experiments went to establish that small pox virus in the human subject gave rise to cow pox in calves they have been since corroborated by experiments undertaken in this country by Dr Hime. But it appears that with full faith in the safety of the experiment as the symptoms in the calf were absolutely characteristic, Surgeon Major King forwarded some of the preserved vaccine lymph thus obtained to a medical officer at Anantapur for trial, and no harm resulted from this in any way as far

as we can gather The Government of India, endorsing the action of the Government of Madras, holds, however, that his conduct in instituting and conducting his experiments and in disseminating lymph prepared from small pox virus without the express permission of the Madras Government was irregular and indiscreet and might have had the result of provoking hostility to vaccination and perhaps to the Government under which he was serving Surgeon Major King was consequently deprived of his civil appointment and relegated to military duty at Mandalay Allowing that this officer's action was technically, and in an official sense, wrong, still we think that the reasons given by the Government of India are far fetched and exaggerate its importance There is nothing to indicate that it was not the result of sheer inadvertence and professional zeal, for his demonstration that cow pox is nothing but small pox modified by having passed through the cow's body was an important one, which, as we have already said, was subsequently confirmed by Dr Hime Surgeon Major King can appeal, no doubt, to the Secretary of State and get some persons of influence in this country to take up his case, but we trust that this will not be necessary and that the Government of India will recognise that they have already gone far enough and virtually cancel their decision in the matter by restoring this officer to civil employ

THE EFFECTS OF THE CANAL BOAT ACTS

It is characteristic of modern legislation that it is becoming increasingly concerned with the settlement of social questions The main principles of human conduct and the rights of property are no longer its only or even its chief objects, but many other matters of less immediate importance in the nation making ages of the world have latterly provided it with worthy occupation Such, for example, is that of which we have been reminded by the last annual report of Mr Brydone, the chief inspector under the Canal Boat Acts for England and Wales Notwithstanding the revelation of not a few discouraging facts, the pages of this report furnish abundant proof of the good work effectively done for health and education by the administration of these Acts Cleanliness has increased, overcrowding, though still much too prevalent and, in the circumstances, by no means easy of cure, has undergone marked reduction, the work of education has made evident progress in spite of the difficulty interposed by a wandering life, and the spread of disease has been limited by the notification of infectious diseases It is further satisfactory to note that these desirable objects have been attained with comparatively little friction of temper, thanks to the judicious conduct of the official inspectors The mental and moral character of the barge population has improved in proportion to these beneficial changes in their vital conditions and we shall, on the whole, be fully justified in saying that experience has proved the practical value of measures in which the spirit of humanity has leavened with such good effect the hard legality of simple justice.

THE LEPROSY HOSPITAL NEAR DRONTHEIM

A DESCRIPTION of a visit to the Leper Hospital near Drontheim in Norway formed the subject of a paper recently read to a Hesse medical society by Dr Kunze The disease, according to his view, is most probably connected with fish-eating as it is most rife amongst the fisher folk and the dwellers near the sea coast in Spain, Russia, Norway and Sweden The hospital is built on a high barren table land about half an hour's drive from Drontheim It is absolutely isolated, there being no habitations within sight It is a long barrack like two storeyed building with two wings and a third building at right angles to the main part It is kept spotlessly clean. The kitchens are underground. The

male and female departments are of course separate The total number of patients is between two and three hundred, a great many of them being in the prime of life Their general appearance is distressing, most of them being pale and thin, with sores or recently healed scars on their faces, which at first sight might be mistaken for the effects of lupus In many cases the nose or lip is completely eroded, so as to expose the bone In about 20 per cent. of the patients the eyes are affected and in from 40 to 60 per cent. the hands and forearms, many having lost one or more fingers

SCIENTIFIC EXPEDITION TO SIAM

DR. YERSIN, formerly an assistant in the Pasteur Institute in Paris, has been sent by the French Government on a scientific expedition to investigate the region between the Don Nai and the Mekong as well as the table lands in Siam between the Mekong and Bangkok.

ROYAL MEDICAL BENEVOLENT COLLEGE

WE have pleasure in announcing that Sir James Paget has consented to fill the office of consulting surgeon to the Royal Medical Benevolent College in the place of the late Mr Cock, who had been connected with the institution for so many years The disinfection of the buildings after the epidemic of scarlet fever which was imported into the College last term is being carefully carried out with the advice and under the supervision of the medical officer of the College, the surveyor of the local board of health and the medical officer of health for the district This is as it should be.

HÆMORRHAGES IN THE NEWBORN

IN the *Centralblatt für Bakteriologie und Parasitenkrankheiten*, xii, 17, 1892, Drs Trüvel and Quervain report two cases of hæmorrhages occurring in the new born in which bacteriological investigations of the blood were made In the first a purulent discharge from the umbilicus was noticed a few days after birth Multiple and fairly extensive hæmorrhages occurred ten days afterwards The infant died on the thirteenth day At the necropsy, in addition to the features already noticed, blood stained fluid was found in the pleural cavities, there was double pneumonia and hæmorrhages were also noted in the mucous membrane of the stomach and intestines and into the substance of the kidney Examination of the blood and organs by means of cultivations showed large numbers of streptococci with a few staphylococci In the second case pneumonia developed on the tenth day and death took place two days later At the necropsy hæmorrhages were found in the pericardium, beneath the dura mater, in the pia mater and in the substance of the brain On similar examination of the blood, staphylococci were found in large numbers The hæmorrhages could not be ascribed to injury, the labours were perfectly natural, although in each case premature In the first case the infection most probably took place by the umbilicus

SMALL-POX AT SOUTHAMPTON

SMALL-POX has, we regret to say, been again introduced into Southampton by shipping and, curiously enough, it is by the steamship *Tamar* again that the introduction has been effected The disease appeared on board between Pernambuco and Lisbon, at which place two sailors were put ashore suffering from small pox About a week after arrival at Southampton one of the ship's stewards was notified to be suffering from small pox. Owing to the fact of there being no available hospital accommodation (the house which does duty for an infectious hospital being filled with cases of another disease) he could not be isolated except at home. How this was carried out is shown by the result which followed—viz.,

that some dozen cases which have occurred since are all more or less traceable to the steward of the *Tamar*. Since then isolation in the present hospital has been insisted upon and a temporary iron hospital is being erected on the hospital site. Moreover, revaccination is being extensively practised at the instance of the town council and the guardians. We can only trust that these measures may prove effectual in limiting the progress of the epidemic. But it is to be feared that the unsuitable position of the hospital now in use, as well as that of the temporary adjunct, will but intensify the present danger to Southampton. In the interests of the town the council should lose no time in procuring a more suitable and permanent site.

"APOPLEXY OF THE PANCREAS ATTRIBUTED TO SEA-SICKNESS"

DR. HADE describes a case of so-called apoplexy of the pancreas occurring in a female, in consequence apparently of prolonged and violent sea sickness. The symptoms were analogous to those of peritonitis, there were severe pains on the right side of the abdomen and considerable distension with flatus. The patient died three days after being first seen. The kidneys were found to be granular and there was a large mass of extravasated blood, originating in the pancreatic artery, spreading over the whole of the pancreas and forcing its way to the two kidneys, which were enveloped in blood clot.

PROFESSIONAL TOUTING

THE Pathological Society of Reading in Berkshire is believed to be the oldest society of the kind in the kingdom, having been founded in 1841. The medical men of the borough and counties adjacent who are members of this Society at their meeting on Jan. 4th determined to take some steps to check the growing tendency to lower professional status by the practice of circulating printed statements amongst the public, setting forth the conditions and terms on which they can be attended and supplied with medicines by becoming members of a "medical aid society." As the result of a full discussion the following resolutions were passed: 1. "That in the opinion of this Society the honour and interests of the medical profession are insufficiently safeguarded, and we do request the General Medical Council to use the powers vested in them, or if necessary to acquire larger powers to enable them to deal with conduct (other than criminal) dishonouring to the medical profession." 2. "That this Society regards as unprofessional all toutting advertising or covering or the holding of any appointment where it is shown that such means are employed to increase the sphere of work."

BURIAL AND CREMATION A PROPOSED COMMISSION OF INQUIRY

THE objects aimed at by the deputation of the Church of England Burial Reform Association which recently waited upon the Home Secretary were well worthy of the attention which they received. They included, as our readers will remember, besides the appointment of a Minister of Health—a matter referred to in our leading article on "The Ministry and Public Health" (vide p. 93)—a proposal for the more careful certification of causes of death and another for the institution of an exhaustive inquiry as to the comparative merits of the different methods of burial now recognised amongst us. We observe with much satisfaction that Mr. Asquith appears to be sanguine as to the feasibility of carrying into effect both of these latter propositions. There can be no question as to their importance. It cannot be denied that, notwithstanding the general practice and the recognised utility of death certification, there still remains a considerable annual margin of deficiency represented by cases in

which the dead are allowed to reach their last resting place without any official notice of the means whether natural or other, by which they died. As regards the practice of burial in its relation to cremation and the relative advantage of different modes of interment, there is, in our opinion, hardly any sanitary question which requires more careful discussion or which as yet owes so little to the deliberate declarations of authority. We would most sincerely welcome the appointment of a commission of inquiry which would examine the present state of our knowledge upon this important subject and would publish the result of its investigation in a definite statement of opinion.

THE LANCET RELIEF FUND

THE "Application Form" of THE LANCET Relief Fund will be found in our present issue. It can easily be removed, filled up and forwarded to the Secretary, Mr. Edward Davies, THE LANCET Offices, 423, Strand, London. We would once more ask those of our readers who may have occasion to employ the form or to sign one of the required accompanying certificates to carefully notice the conditions on which applicants become entitled to a participation in the benefits of the Fund.

"FAITH CURES"

THIS subject has been recently discussed in the pages of one of our contemporaries by so able a physician as M. Charcot. His treatment of the subject is very calm and impartial. After showing that in all ages the conditions affecting the successful application of the faith cure have been practically identical, he emphasises the following important points: (1) That a special disposition on the part of the patient is necessary to success—a disposition fostered by the mental exaltation incidental to religious pilgrimages, (2) that the diseases usually benefited have been of a convulsive or paralytic order—that is they belong to the category of functional disorders "which demand for their cure no intervention beyond the power which the mind has over the body", and (3) that the domain of faith healing has thus a limited application. M. Charcot, however, deals with the matter in no dogmatic spirit nor does he restrict within too narrow limits the trophic influence of the nervous system. Mention is made of the remarkable case of a patient in whom a "hysterical oedema" of the breast resulted in extensive and long-continued sloughing and who was at the same time the subject of a profound hysterical paralysis of the left side. The sores, mistaken for cancer, rapidly healed and the paralytic symptoms disappeared.

ASLEEP OR DYING?

OF somewhat more than ordinary interest and importance was one of the cases recently inquired into by a coroner's jury at St. Helens. It was that of a woman who probably while intoxicated, fell downstairs, and striking her head against a wringing machine sustained what finally proved to be fatal concussion of the brain. The most singular circumstance observed in connexion with the occurrence was the fact that the deceased was allowed to lie in a state of stupor for eighteen hours before her relatives considered it needful to send for medical assistance. It was the old story over again—the stupor of cerebral compression was mistaken for drunken sleep. Perhaps in the existing circumstances it was not remarkable that the other occupants of the house—her husband and son both over-tired with a week's labour and half asleep themselves—should at the outset have fallen into this error, notwithstanding the existence of a bleeding scalp wound. Dangerous head injuries as every practitioner can testify, often wear at first and for some time afterwards an appearance of deceptive innocence. Their true character, unless it be carefully looked for, at the time of infliction, is usually

reverted, only when too late for remedy, by the signs of serious brain mischief and this fact is of even more professional than general importance. It would not be surprising if death were in this instance accounted for by an excusable ignorance of the true significance of the head injuries. As it happened, however, the symptoms of grave illness were present and the absence of any real interest on the part of relatives was conspicuous. A verdict of accidental death was perhaps the only one possible, but the coroner did well to emphasise his opinion of the flagrant neglect which delayed till so late the arrival of skilled assistance.

SMALL-POX IN SCOTLAND

SMALL-POX has shown renewed activity during the past week in Glasgow. A new centre of the disease was discovered on the south side of the Clyde and a number of the fresh cases are related to it. At Ardlin on Loch Lomond three or four cases have developed among persons who had been placed under observation owing to their having been exposed to infection from the case which we reported last week. The navvies' hut in which these cases occurred has been turned into a temporary hospital and an adjoining hut has been placed by the contractors at the disposal of the sanitary authority as a reception house. This week a case has occurred in a navvies' hut on the Helensburgh section of the West Highland Railway. In this instance the infection appears to have been brought by a tramp from Glasgow. Revaccination and isolation are being carried out in connexion with this case. The following table shows the movements of the death rate of Old Glasgow since the commencement of registration in 1855—

Mean death rate 6 years	1855-60	29.9
" " 10 "	1861-70	30.4
" " 10 "	1871-80	23.0
" " 10 "	1881-90	24.5
Death rate for	1891	26.3
" " "	1892	23.0

The death rate of Old Glasgow has only on two occasions—viz, in 1888 and 1891—been less than in 1892. The following is a summary of the year's work in the vaccination department—

Primary vaccination at station	1892	1891
Secondary vaccination at station	809	350
(At home)	195	45
	1010	145

The Registrar General estimates the population of the city for 1893 at 677,877, in place of 669,059—an increase of 8818. For the fortnight ending Saturday at midday, 18 cases of small pox were reported. Two of these were reported in the first week of the fortnight, and 16 in the second, and these within the last few days of the second week. Reckoning from Wednesday, the 4th inst, till Wednesday, the 11th, 25 cases were reported.

THE "MANIA PELLAGROSA"

PELLAGRA in Italy is on the increase. True, it is not in itself a deadly disease. In 1888 for instance, the general mortality reached the figure of 829,431, while the victims who succumbed to pellagra were 3483. But it is a disease very disastrous in its sequelæ one of which is a distinct mental neurosis manifesting itself in what has been classified as "mania pellagrosa." In Lombardy, the headquarters of pellagra, the *manicomii* (lunatic asylums), according to Professor Sormani of Pavia, show a large proportion of the "pellagrose insane," those of Milan heading the list. In 1885 the Milanese *manicomii* admitted a total of 122 pellagrosi with 44 deaths, in 1886 a total of 147 with 45 deaths, and in 1887 a total of 105 with 46 deaths. Professor Sormani demonstrates that while pellagra in general is on the increase, the mortality from it becomes more than proportionately heavy, and that the most numerous victims who succumb to it fall under that peculiar (and also increasing) form of it—

"mania pellagrosa." To combat this deplorable phenomenon prevention rather than cure is the course indicated. But, meanwhile, in the Milanese provinces there has been erected an "Asilo de Pellagrosi," where the treatment, mainly dietetic, is practised, from which the Legislature may be guided to the best means of averting the malady at its origin. That treatment consists in the substitution of a mixed farinaceous and meat diet for that exclusively meted out to the labourer—namely, the polenta (porridge) of meal made from unsound maize, which is his hereditary fare. Good broth, with milk, and a graduated allowance of wine, replacing the polenta above described, suffices to put the young pellagrose patient on the true alimentary track, while in more confirmed cases—those in which neurosis is already apparent—the same diet, coupled with a judicious use of alteratives and tonics, seldom fails to bring about physical and mental convalescence. At this stage the resumption of out-door or fieldwork comes in to complete the reclamation of the "pellagroso," and he leaves the "Asilo" a fitter man, capable of better work and thus enabled to give himself the more generous diet he has found to be necessary for body and mind. The "Asilo" which has thus afforded an object lesson to the individual and to the State in dealing with pellagra stands in the commune of Inzago and its success is stimulating the charitable throughout the Alta Italia to erect others with a similar object—chiefly in the Lombard and Venetian territories. Practical legislation on the part of the Government has yet to intervene for the improvement of the labourer's lot in that region—the more equitable incidence of taxation and the provision of public employment where private enterprise is insufficient. Works on an imperial scale, such as the replanting of the recklessly denuded hill sides, the regulation of the affluents that feed the great rivers and the embanking of these latter—works imperatively called for to prevent the disastrous floods that annually devastate the Venetian province particularly—might profitably engage the services of those for whom there is barely employment enough in the fields. Professor Sormani, meanwhile, can claim this result—of having demonstrated that prevention, not cure, is the proper way of dealing with this Italian scourge and that the appointment of commission after commission to "investigate" the phenomena is merely a political makeshift, to relieve the State of its obvious duty.

FOREIGN UNIVERSITY INTELLIGENCE

Bologna—Dr P. Pellacani, Extraordinary Professor of Forensic Medicine, has been raised to the rank of Ordinary Professor.

Brussels—An institute of Bacteriology is shortly to be erected by private munificence near to the Physiological Institute.

Leipsic—Dr Rudolf Armin Fick of Würzburg, a son of the great physiologist, has been appointed to an Extraordinary Professorship.

Messina—Dr Seimoni has been raised to the rank of Ordinary Professor of Ophthalmology.

DR. GUIDO BACCELLI delivered in Rome, on the 5th inst., the first of a series of lectures instituted by the Association for the Education and Instruction of Women. The Queen of Italy was present and the brilliant audience reflected the *élite* of Roman society. The lecturer chose as his theme the Vestal Virgins, and after a most interesting account of the excavation of the Atrium Vestæ effected, when he was Minister of Public Instruction, by the great archaeologist, Signor Lanciani, he dwelt on the characteristics of the Vestals as illustrating the sovereign female virtue of purity, constancy, dignity and faith. The lecture, which was highly successful, will be made *publici juris*.

In reference to the appointment of a Professor of Anatomy in the University College, Cardiff, the *South Wales Daily News* says "In connexion with the new school of medicine to be founded next October at Cardiff, a rumour has unfortunately become prevalent that it is useless for outside men, however eminent, to send in an application for the professorship of anatomy, as it has been practically decided to give the appointment to a Welshman. On inquiring into the matter we learn that there is not only no foundation for the rumour, but that the College Council cannot possibly account for such a rumour being prevalent. Throughout the whole career of the College the Council has steadfastly kept one aim in view—viz., to appoint the candidate possessing the highest qualifications to the vacant post, and never on any occasion has this principle been set aside. This is one of the main reasons why the University College, Cardiff, has been so successful, and the same rule will unquestionably decide all the appointments for the new school of medicine."

THE programme for the series of lectures to be delivered at the Royal Institution in the spring of this year appears to be of more than usual interest. On the list will be found a series of ten lectures to be given by Professor Victor Horsley in January, February and March, on the "Structure and Functions of the Nervous System—The Brain," commencing on the 17th of the first-named month and terminating on March 21st. Also, on Feb 10th, Professor Charles Stewart will discourse on "Some Associated Organisms," a subject which the lecturer may be trusted to deal with to the entire satisfaction of his audience.

THE recently appointed coroner for West Middlesex, Dr W B Gordon Hogg has chosen as his deputy Dr William Wynn Westcott, who has acted for ten years past as Deputy Coroner for Central London. The nomination has been officially approved by the Chairman of the County Council, as required by the Coroners' Deputies Act, 1892.

At the quarterly meeting of the directors of the Naval Medical Supplemental Fund, held on the 10th inst., T Russell Pickthorn, Esq., Inspector General, in the chair the sum of £43 was distributed amongst the several applicants.

BARON HIESCH has forwarded to the committee of the North Eastern Hospital for Children a donation of £700, and to the Royal Hospital for Children and Women, Waterloo-bridge-road, a second donation of £700.

CHOLERA.

CURRENT NOTES COMMENTS AND CRITICISM

THERE is not much to record in regard to the progress of cholera during the past week, but what there is is significant in two directions—viz., that it is indicative of the widespread distribution of the epidemic and of the localised persistence of the disease at Hamburg as shown by the appearance of an occasional case of cholera there. We learn from Constantinople in the *Lerant Herald* that between Dec. 25th and 26th last 2 cases of cholera and 6 deaths had occurred at Trebizond. A Commission met on Dec. 27th at the Ministry of the Interior under the presidency of His Excellency Refik Bey of the Home Office to discuss the sanitary measures which it is proposed to carry out in Trebizond with the view of arresting the progress of the disease in that district. In the village of Ketch 6 cases and 2 deaths were registered between Dec. 20th and 24th and one death is reported in the village of Badosh, in the province of Van. A few cases have continued to appear in Galicia, for example, since the 22nd ult. there were 12 cases and 5 deaths from cholera at Zalosze and three other districts in Galicia.

As regards Hamburg, after four days' immunity, a fresh case was reported on the 9th inst. in the person of a labourer living in the Steinstrasse and there was one death from cholera at Altona. On the 10th inst. it was reported that two of three sailors removed to hospital from a Spanish steamer, *Murciano*, had been found to be suffering from cholera and had died. Another case in the persons of a man recently released from prison had also occurred. It appears that two Spanish steamers—the *Murciano* and *Zaria*—which had entered the port of Hamburg were found to be in an almost indescribably filthy condition, especially the former which arrived from New Orleans on the 5th inst., but the affected men seem to have been attacked before the arrival of the vessel at Hamburg.

According to the *Times'* correspondent the probable source of infection in the cases from the *Murciano* was from the use of Elbe water. Be this as it may, the river has not stood for many years so low as it does at the present time; and it is pointed out that on the occasion of the cholera outbreak at Hamburg last summer the river was exceptionally low.

A fatal case of cholera occurred at Amsterdam on the 11th inst. and a fresh case of Asiatic cholera is also reported from the Hague.

The *American Journal of the Medical Sciences* for the present month contains three papers in connexion with the history of cholera in New York in 1892 and the results of the bacteriological examinations that had been carried out. The first vessel infected with cholera to arrive at New York was the *Moravia*, which left Hamburg on the 6th and arrived at New York on Aug 31st, 1892. She reported 22 deaths during the voyage from gastro-intestinal disease. Three days after the arrival of the *Moravia* the *Normanna* and *Rugia* reached New York. The first person affected with cholera at New York was taken ill on Sept. 5th, five days after the disease had appeared in the harbour, and died on Sept 7th. During the four weeks following 6 other cases occurred in that city and 1 case in New Brunswick, N J. Dr Hermann M. Biggs in his article on the late outbreak of epidemic cholera in New York, says that his experience in 1892 and previously at the quarantine station in 1887 convinced him of the great practical value of bacteriological examinations in the diagnosis of Asiatic cholera, and of their importance in assisting the work of the Health Department. Reviewing the history of the outbreak in New York, he summarises his conclusions as follows:

"In no single instance, after the most careful and conscientious inquiry and investigation, was it possible to find any satisfactory way of accounting for the infection. The cases occurred in widely separated parts of the city and in no instance was there the slightest suspicion of association. After the cases were brought to the attention of the Health Department, in no instance did a secondary case occur. There was a striking association in the occupation of the persons affected with the food trades and especially animal foods. Although some 26 suspicious cases were examined, in every one in which the cholera spirillum was found, 8 in number death occurred, while in only one of the other cases in which the cholera spirillum was not found did death follow. In two instances however, where recovery took place—that is the fifth and sixth cases—although biological examinations were not made, the associations with cases which were proven to be cholera Asiatica justified the assumption that these were of the same nature." The *Indian Medical Gazette* for last month has, on the other hand a very important article bearing upon the pathology and bacteriology of cholera, based upon the reports of Surgeon-Lieut Colonel D D Cunningham, F.R.S. and other officials in connection with the recent tragical outbreak on board the *Crofton Hall*. We may succinctly recapitulate the facts regarding this occurrence as set forth by our Indian contemporary. The ship *Crofton Hall* was lying in the Hooghly on Jan 20th, 1892, at which date her second officer prepared some fresh brine with water taken from the river for the preservation of some beef received on board at New York. The vessel remained in the river until June 2nd following during which time the beef remained for some of the hottest time of the year in what is called a 'harness cask,' the crew being rationed from the shore. The salted beef was issued on June 4th, 5th, 7th, 9th and 12th respectively, after the vessel had left the port of Calcutta, and the issues were followed on each of the following days by symptoms resembling cholera among those who partook of the meat. Twenty three out of

a crew of twenty nine were attacked, and 6 cases died among 14 of those seized during the first four days of the outbreak. It is important to note that no sickness occurred on those dates when the salt beef in question was not issued. The ship returned to Calcutta owing to this sickness among her crew, and ten of the remaining sick were at once sent to the General Hospital for treatment. The medical officers of that institution were unanimously of opinion, however, that these ten men were not suffering from cholera. The absence of depression of temperature and suppression of urine, the presence of pustular eruptions or abscesses in a large proportion of the cases and other phenomena, together with the fact that all ultimately recovered, whereas the death rate of cholera among Europeans ranges from 50 to 75 per cent. in that climate, left no doubt on the minds of the medical staff that the disease was not true cholera. An exhaustive investigation was also undertaken by the health officers of the port and town of Calcutta which proved in the clearest manner and beyond any doubt that the outbreak was due to the issue of the meat from the harness cask. Unfortunately the remains of the suspected meat were thrown overboard, but specimens of the brine in which the meat had been soaked were taken away and carefully examined by different officials and by Dr. D. D. Cunningham, who also examined bacteriologically the excreta from the patients admitted into the Calcutta Hospital and the micro-organisms found in the stools. The papers connected with this inquiry, and the Government resolution thereon, were published in the *Calcutta Gazette* of Sept. 30th, 1892, and, according to our contemporary, form a very clear and complete history of the occurrence. The cause of the disease was naturally attributed to poisoning from some ptomaine developed in the partially decomposed salt meat, of which the men had partaken.

The brine had a peculiar fetid odour and acid reaction and was crowded with bacilli of different kinds but, as might have been expected, there were no comma bacilli present. Dr. Cunningham's examination of the stools of the patients showed, however, that in one of the cases the flocculi were occupied by very abundant and almost pure growths of well formed comma bacilli, and both plate and tube cultivation, especially the latter, gave comma bacilli in abundance. When cultivated in ordinary gelatine and in agar agar these comma bacilli liquefied the gelatine and behaved exactly in the same manner as organisms of the same shape are found to do when associated with true cholera, producing also after forty-eight hours cholera purple with nitric and sulphuric acids. It may be mentioned, moreover, that cats fed with the cultivations obtained by Drs. Ranking and Simpson from the micro-organisms of the brine gave rise to diarrhoea and in one case to vomiting in those animals. The *Indian Medical Gazette* summarises the salient points as follows—An epidemic clearly produced by the consumption of partially decomposed salt meat, giving rise to symptoms clinically distinguishable from those of true cholera, and micro-organisms, consisting chiefly of straight bacilli and yet comma bacilli, differing in no essential from those discovered in true cholera, were found in abundance in the stools of one of the men admitted into hospital. The importance of the observation consists of course in the fact that it is opposed to the current belief that true cholera can be absolutely diagnosed by the presence of these bodies in the stools. Our contemporary rightly regards these observations as of great interest at the present time and adds that it is not at all uncommon to find an abundance of morphologically comma bacilli in the intestinal discharges in cases of diarrhoea, a very striking example of which, it states, presented itself last year in a case of artificially induced diarrhoea in the person of a prisoner in the presidency gaol. What renders the present instance remarkable is that the comma bacilli are cultivatable under the conditions favourable to the growth of those associated with true cholera and present features showing that they belong to the same group of organisms as the latter. After a logical analysis of the views specially advocated by Professor Friedrich of Berlin and others and of the difficulties involved in the belief that all the very distinct forms of comma bacilli found by Dr. Cunningham and others are to be regarded as "atypic varieties" of one and the same organism, our contemporary leads up to the conclusion that the association of comma bacilli with cholera can no longer be regarded as peculiar and specific. If we remember aught, Professor Koch originally described his specific organism, when discovered in cholera cases in Egypt, as a straight bacillus resembling one which had been found in

glanders, and it was not until after the German Commission had proceeded to India that, in 1883 and the early part of 1884 it was described as curved, or comma shaped, and not straight.

HEALTH OF THE ITALIAN ARMY

THE War Office of Italy has just issued its medico-statistical report on the sanitary condition of the Italian Army during 1891—the last statistical year. It is compiled from the returns of the "Ispettorato di Sanità Militare" and its editor and commentator is the medical inspector, Colonel Santanera, M.D.

A sensible increase in maladies and in mortality during 1891 is the unsatisfactory conclusion of the report of that year as compared with those of its predecessors.

The causes of this increase are sought in the fact that in 1891 there were called under arms two classes of conscripts—"it being known that it is precisely in the early months of service that levies most easily take ill and that their maladies most often run a fatal course."

The insanitary results of 1891 are the gravest of those within the last quadrennium. In 1887 there were per 1000 men of the mean force 760 admissions into hospital and 8.7 deaths, in 1888, under the same heads, the numbers were respectively 732 and 8.7, in 1889 they were 749 and 8.0, in 1890, 796 and 7.5, and in 1891 as many as 811 and 9.0. The individuals admitted into the infirmaries of the several army corps in 1891 were 89,977. Of these, 14,671 passed from infirmary to hospital in continuation of their cure. In the military hospitals and in the garrison and special infirmaries (*infermerie presidiarie e speciali*) there were admitted 88,085 patients—that is, 87,116 directly and 969 from other hospitals.

The mortality among officers was always, and in high proportions greater than that among common soldiers, while it was invariably lower among individuals not belonging to the combatant arm. On this subject Dr. Santanera says—

"The deaths of officers admitted into hospital are uniformly in excess of those of the other categories of admissions, for the reason that in general the officer enters hospital only for grave illness. The mortality amongst non-combatants (sentries on guard at the Ministry of Finance or at Government banks, at municipal halls and at prisons, and exceptionally the military marine) is always lower than amongst combatant troops, chiefly because their off-duty hours are much more numerous than in the army, while their age is generally superior to that of the regulars, among whom ailments and mortality are most frequent amongst the youngest."

The regiments and the corps that in 1891 yielded the largest contingent of patients were the grenadiers, next came the field artillery, next the infantry of the line, then the cavalry, then the engineers. The smallest number on the sick list was found among the Royal carabinieri.

In 1891, moreover, as in the previous statistical years, the health of the army was at its worst in the winter months. Ailments reached their highest figure in February, deaths were most frequent in March.

The maximum of unhealthiness (1046 per 1000) was attained in the Perugia division, the minimum (621 per 1000) in that of Turin. The maximum of mortality (14.3 per 1000) was found in the division of Bologna, the minimum (6.3 per 1000) in that of Alessandria. Finally, the maximum of those put on sick leave (27.7 per 1000) is shown by the Bologna division and the minimum (5.7 per 1000) by that of Ravenna.

Within the last quinquennium the mean of mortality was always exceeded by the divisions of Padua, of Rome, of Perugia, of Naples and of Bari. The mean of those put on sick leave was exceeded as in the four years preceding, by the divisions of Brescia, Bologna, Florence and Perugia. The mortality, on the other hand, which up to 1890 was always above the average in the divisions of Genoa and Naples, was in 1891 somewhat, though not much, lower in these latter.

The maladies which numbered more than 1000 patients each were the following: the highest being given first—Venereal diseases, 15,809, acute bronchitis, 10,056, rheumatic fever, 5365, malaria, 4232, acute gastric catarrh,

165, pleuritis, 2947, simple gunsy, 2745, and rheumatoid arthritis, 2517

The aggregate number of deaths among the troops in 1891 as 1978, or 9 per 1000 of the mean force, the officers of the landing army who died were 124. Deaths by infective disease underwent some increase, on the other hand there was diminution in tuberculous cases and suicides. The proportion of these was 0.33 per 1000.

The garrisons on the Red Sea littoral gave an average of 1.75 sick per 1000 of the force, which, excluding the indigenous soldiery had a mean of 2603 men with a maximum of 648 in March and 1796 in number during October.

To the admissions into infirmaries and hospitals during 1891, adding 157 remaining over from December, 1890 there were, for the garrisons of the Red Sea littoral, a total of 3215 under treatment, of whom 1439 were hospital and 1776 infirm patients.

The losses by death during 1891 were, on that littoral, 36 in all—that is, one officer and 35 men.

The average of the mortality of the troops was hence in the aggregate 19.4 per 1000 of the force, while with restricted reference to the sick under treatment in hospital and infirmaries the mortality itself is reduced to 9.7 per 1000—that is, 5.5 in hospital and 9.9 in infirmaries.

Comparing the figures above given with the corresponding ones of the year before, it is seen that in 1891 the sanitary condition of the troops on the Red Sea littoral was somewhat improved, if not on the side of disease, at least on that of death.

To aggravate the death rate in 1891 the cholera made its special contribution. From this epidemic, though much restricted and of very brief duration, there died six. Deducting these, the mortality of the troops remains 11.1 per 1000 of the force.

The greatest amount of disease was in November, a fact attributable to the exceptional development of malaria in some garrisons and of rheumatic fever in others, due to the inclemency of the season.

Dr Santanera's report contains other matter of much sanitary interest, civil as well as military. But the statistics above given exhaust the details bearing particularly on the health of the Italian army.

A CENTRAL OPHTHALMIC SCHOOL FOR LONDON

By SYDNEY STEPHENSON, M.B., F.R.C.S. EDIN.,
SURGEON TO THE HANWELL OPHTHALMIC SCHOOL.

THE proposal to isolate cases of ophthalmia, in an institution where treatment might be carried out together with schooling, was advanced twenty-four years ago by the late Mr. Critchett. It has been urged since then by Dr. Bridges and by Mr. Nettleship and also by Mr. H. J. Searle, chairman of the Central London School District. A practical attempt at dealing with epidemic ophthalmia was made in 1886 at the Norwood Schools, which belong to the parish of Lambeth. The guardians engaged my services and placed at my disposal a modern building and a good staff of nurses. After two years I was able to say that the attendance of an ophthalmologist was no longer required. As regards other parochial schools it is not going too far to say that ophthalmia has more than once given grave cause for anxiety in every one of them. This has been specially the case at the Strand and the Forest Gate Schools, where steps have been taken involving the expenditure of considerable sums of money. Furthermore, it is practically certain that under present conditions they will never be safe from future outbreaks. Indeed, the necessity for dealing with the disease in a radical manner must by this time be obvious to most people, and it appears to me that the present is a particularly opportune moment for urging the claims of a central ophthalmic school. An ophthalmic school was erected two years and a half ago at Hanwell to receive 400 children, but for some time past it has contained less than 100 patients. This waste of accommodation led me in July last to suggest in my report to the managers that they should throw open their institution to other metropolitan unions. Shortly afterwards the Local Government Board made a similar suggestion, which the Hanwell managers, however, profess themselves unable to adopt. At the same time they are willing to dispose of the buildings to any properly consti-

tuted authority, but so far, no answer has been received from the Local Government Board to the latter proposition.¹ From a report published by Dr. Bridges in 1890 one learns the significant fact that during the previous seven years not a single parochial school remained wholly free from ophthalmia. Tables appended to that report show the number of children invalided by the disease on fourteen specified dates between the years 1883 and 1889 inclusive, and a calculation of some interest may be readily made from the data thus supplied. To obtain the following figures I have taken the average number of children and the average number of ophthalmic cases for the seven years covered by the report, and from these have calculated the average percentage of ophthalmia for each school. The results arrived at are suggestive. Hanwell heads the list with an average of 16 per cent., Norwood comes next with 9 per cent., Edmonton and Sutton, 5 per cent., Banstead road, Leavesden, and Brentwood, 3 per cent., Anerley and Hurold Court, 2 per cent., Ashford, Forest Gate, Leytonstone, Southall and Mile-end, 1 per cent., and lastly, remaining institutions showing less than 1 per cent. of ophthalmia. It is interesting to observe that on the last date given by Dr. Bridges (July 6th, 1889) no less than 598 cases of ophthalmia were under treatment in the various schools. During the last two years the City of London and the parish of St. Saviour's have sent to the Hanwell Ophthalmic School 128 affected children, only 28 of whom had previously been inmates of a pauper school. Again, a considerable number of children suffering from ophthalmia are at this moment detained in the Lambeth workhouse and infirmaries because the medical officer at Norwood very properly refuses to admit such cases into the school. These facts show that among the fresh admissions to the London workhouses are a number of children who have already contracted the disease outside. "Granular lids," as most people know, drags its tedious course over a number of years, so that cases must accumulate in the infirmaries. On the other hand, to send affected children to schools that have not proper accommodation would be to court disastrous outbreaks of ophthalmia. A central ophthalmic school would receive not only existing cases of ophthalmia from the various schools, but also all children thus affected on admission to the workhouses. The metropolis has upwards of 11,000 pauper children distributed amongst eighteen schools belonging to different unions. Each school has therefore to deal with its ophthalmic cases as best it can. Complete isolation is now admitted to be essential for the prevention of ophthalmia, but it is clear that in most schools such isolation is at present impossible. When an outbreak occurs the infirmaries become quickly filled and the children overflow into the school itself. It is possible that some at least of the widespread outbreaks recently witnessed would never have taken place had a system of rigid isolation been consistently in force. Should a school determine to grapple efficiently with ophthalmia the attendant expenses will necessarily be heavy. At Hanwell, for instance, upwards of £30,000 has been spent on the erection of a suitable isolation school, while at least £4000 have been expended on salaries already. The direct and indirect expenses of the recent outbreaks at Norwood, Forest Gate and Edmonton must have been proportionately heavy. The certainty of incurring pecuniary burdens of this sort is scarcely calculated to encourage action on the part of boards of guardians, yet it is obviously to the interest of the community that such steps should be taken. Individual boards, however, would feel no hesitation in sending affected children to a central institution to which each union contributed. Regarded from an economic standpoint a central school would be more efficient and less costly than would be possible in any scheme initiated by a single union.

Turning now to the educational aspect of the proposed scheme it can hardly be questioned that teaching would be better carried out in a well equipped central school than could possibly be the case in scattered buildings set apart haphazard for diseased children. At Hanwell the majority of the patients have been found able to accomplish twenty-three hours' schooling a week, and at the examination recently held by Her Majesty's inspector they obtained 90 per cent. of passes. If local treatment be persevered with I find that ophthalmic patients are capable of undergoing almost as

¹ Since the above was written three metropolitan boards of guardians have formally approved the scheme of central isolation for ophthalmic children. These boards are Lambeth, Camberwell and Bethnal Green. The last has attempted, indeed, to open up direct negotiations with the Hanwell managers.

much schooling as ordinary children, and in organising any scheme of tuition that fact should be kept in view.

The question remains as to what body is to assume the reins of government. It is to be hoped that the Metropolitan Asylums Board, which already controls numerous medical institutions, will see its way to take this added responsibility, otherwise it would be feasible to create an entirely new authority consisting of representatives from all the unions interested. In whatever hands the management may ultimately be vested, it is, I think, of great importance that the whole of the metropolitan schools should be in touch with the proposed institution. To secure that end it would be well to maintain the school, not by contributions from individual unions, but directly from the Metropolitan Common Poor Fund, thereby spreading the charge over the whole London district.

The adoption of a scheme for the collective treatment of ophthalmia, such as I have outlined in the above remarks, is, I would submit, a matter of pressing importance. Such a scheme, placed on a sufficiently broad basis, appears to offer the only satisfactory plan of coping with a disease that has been a scourge in the pauper schools of London from time immemorial. A suitable building is ready and waiting at Hanwell. Should not advantage be taken of so hopeful an opportunity? It would be the conversion of a scientist's vision into a substantial, a praiseworthy and a salutary reality.

Welbeck-street, W

THE CONFERENCE ON CHOLERA IN ST PETERSBURG

(FROM OUR SPECIAL CORRESPONDENT)

(Continued from p. 52)

DR. GREBENTCHIKOFF, continuing his statistical account of the epidemic and of the mode of its dissemination, stated that the first case of cholera in Russia occurred in Kaachka, a station on the Transcasian Railway, on May 19th (31st). The channel by which the infection crossed the frontier is unknown. Many other parts of the Transcasian and Samarcan provinces were affected in May and June, and from June 6th (18th) suspicious cases began to be admitted into the Baku hospitals. How the disease reached Baku is unknown, but there is evidence that the first patient there was a foreign labourer, who had come from Persia through the Transcasian province and who stayed at a certain house in Baku which became one of the chief centres of infection in that town, furnishing no less than forty patients in the first week of the epidemic. The disease raged violently in Baku, and the panic-stricken inhabitants fled in all directions, carrying the infection with them. In the first half of June cholera had affected most of the towns lying on the Caspian Sea and had penetrated into the Caucasus. Thence it travelled to Europe by two great routes—on the one hand by the Volga and on the other by railway to the basin of the Don, the first of these being by far the quickest. The speaker proceeded to trace the course of the epidemic by each of these routes, enumerating the "governments" or provinces affected during each succeeding month. He exhibited the following table, showing the area and population of the districts in which the disease was present during each of the months from May to November. The whole of these immense areas was of course not actually affected by cholera. Many large districts remained free from the disease, but every "government" has been included from which a return has been received, although only one "uyezd" (district) or even only one village in the "government" may have suffered from the disease. With this limitation the disease was present

In May	over	484 000 square versts with	700 000 inhabitants.
In June	2 763,000	"	15 286 000
In July	7 271 000	"	63 408 000
In August	7 645 000	"	77,595 000
In September	7 808 000	"	87,848 000
In October	6 965 000	"	87 725 000
In November	1,682 000	"	69,767,000

The disease has spread mainly along the course of the rivers, it affected the whole systems of the Volga, the Don, the Dnieper, the Ural and the Obi, every part of the Central Asiatic provinces, the systems of the Vistula and Western Dvina and finally the whole of the St Petersburg district and two "uyezds" of the Olonetz governments.

From a table of the numbers of cases and deaths reported from every government throughout the Empire to the beginning of December it appeared that the Caucasus suffered most severely from the epidemic, the second in order of severity being the Central Asiatic provinces, the third Siberia, particularly the government of Tobolsk, and finally the country of the Don Cossacks and the following European governments Astrakhan, Saratof, Samara, Simbirsk, Voronez, Orenburg and Tumbof. Charts were shown indicating by curves the course of the epidemic week by week in every government, and from these it appeared that the cholera rapidly (in the course of two or three weeks) attained its greatest intensity, that it remained at this height for one or two weeks, and then in a few districts gradually subsided, but more often there was a remission lasting one or two weeks, then the curve again rose, the second rise being followed by a gradual fall. In certain towns even a daily chart showed a similar double rise and remission. The means by which cholera was introduced into a given locality have remained in the immense majority of cases unknown. In twenty-eight governments, however, information had been furnished to the Medical Department on this point and the speaker proceeded to repeat in detail each of these cases. The general conclusion to be drawn was that pollution of the drinking water was in almost every case the channel by which the disease was spread.

Professor Janson, the Professor of Statistics in the St. Petersburg Academy and author of several important works on economical questions, read a short but interesting paper on the Value of Statistics. He pointed out the importance of recognising the first case of cholera or any other epidemic disease. The only certain means of doing this was by a thorough and constant system of notification and registration of all diseases, more particularly of infectious diseases. He recommended the adoption of registration of deaths such as is in use in all Western European countries. He also dwelt on the necessity of recording all the circumstances surrounding every case of an epidemic illness, as only in this way can general conclusions on any particular point be arrived at.

A paper was read by Dr. Tolstoi on Precautionary Measures directed against the Dissemination of Cholera. In discussing the question of quarantine he pointed out certain anomalies in the quarantine laws existing in ports on the Black Sea. The efficiency of cordons, the medical inspection of passengers, the disinfection of luggage, the measures taken along the rivers, particularly the Volga, were all briefly reviewed. The following questions were submitted to the conference for discussion in committee—(1) Quarantine regulations, cordons and military isolation of places, (2) "observation points," (3) general inspection of passengers, and the following additional points—(a) the means of determining the first case of cholera, (b) the means of localising the infection.

An important communication was read by Dr. Rozanof on General Precautionary Measures before the appearance of Cholera. He discussed the efficiency of the special Sanitary Commissions and their relation to the sanitary authorities already in existence. These commissions, it should be explained, were formed early in June, in accordance with a Government order, in every town forming the centre of a "government" or *uyezd* throughout the country, with the object of improving the sanitary condition of the town and district before the approach of the epidemic. On this subject Dr. Rozanof put the following questions to the conference: 1. To what extent are special sanitary commissions necessary in the struggle with the epidemic in view of the other sanitary authorities already existing? 2. How should such commissions be constituted? 3. What should be their relation to the Government and local authorities? 4. What should be the limit of their powers and what is to be the source of their revenue? 5. What should be the relation between the Sanitary Commissions and the Medico-Statistical Bureaux? 6. What should be the organisation and the duties of subcommissions? (Last summer subcommissions, consisting of sanitary and police inspectors, were formed in each quarter of the larger Russian towns to inspect and improve the sanitary condition of every building in that particular part of the town.) 7. What should be the number and constitution of the bodies of sanitary overseers, inspectors &c., and their relation to the police? Passing on to discuss the many questions relating to the sanitation of inhabited localities Dr. Rozanof pointed out that wherever the sanitary condition of a town or district had been satisfactory the cholera epidemic had either passed it by altogether or claimed but few victims. He deplored the

act that such localities were but few in number and gave several instances of towns in an extremely insanitary condition and quite unprepared to meet an epidemic of cholera as in the other papers the points discussed were put in the form of questions and submitted to the committees as follows 1 Measures of sanitation in inhabited localities 2 The results of sanitary inspections carried out last summer 3 Data for judging of the possibility of cleansing the soil and removing of refuse in towns and villages 4 The means of providing a pure water supply 5 The means of inspecting crowded institutions, such as night refuges, lodging houses, factories &c These questions have been discussed in committee under the presidency of Professor Kapustin and certain conclusions have been arrived at. The committee declare that special sanitary commissions are necessary and very useful institutions, especially in places where there is no medico-sanitary organisation under the zemstvo Where there is such an organisation they are most useful if they act in conjunction with the authorities already existing Their success has been so great that they will probably remain in constant existence, though only formed to meet a special danger The sanitary councils or commissions existing in the Moscow, Saratof and some other governments might be taken as types of institutions which, with certain alterations, could be converted into special sanitary commissions. With regard to their relation to Government and other local authorities, it has been decided that in most cases this should be determined in the constitution of the commission. In order to ensure united action the commissions should have the rights of committees of public health. Finally, as to the limits of their powers the committee consider that this is already provided for in certain articles in the orders of the Medical Council The question as to the necessity for Government commissions called forth a lively discussion and was ultimately decided in the affirmative.

Demonstrations have been given daily in bacterioscopy in the laboratories of the Imperial Academy of Medicine, in the clinical institute named after the Grand Duchess Helena Pavlovna and in the Alexander Hospital in Memory of the Emancipation of the Serfs Demonstrations in disinfection have also been given to members of the Conference in the Oldenberg Institute of Experimental Medicine and in the Alexander Hospital in Memory of Botkin

A report of the proceedings of the Conference will, it is hoped, be published shortly

THE LONDON POST-GRADUATE COURSE

THE spring term, 1893, will commence on Monday, Jan 16th, and will consist of twelve courses of lectures and demonstrations at the following hospitals and institutions viz. the Hospital for Consumption and Diseases of the Chest, Brompton, the National Hospital for the Paralysed and the Epileptic, Queen square, the Hospital for Sick Children, Great Ormond street, the Royal London Ophthalmic Hospital, Moorfields the Hospital for Diseases of the Skin, Blackfriars Bethlem Royal Hospital for Lunatics the London Throat Hospital, the Bacteriological Department, King's College, the Parkes Museum Courses of Lectures and Demonstrations on Morbid Anatomy and Gynecology and a course of Clinical Lectures on Medicine and Surgery at the Central London Sick Asylum, Cleveland street, W The steady growth of the undertaking is well shown by comparing the five courses of the first term with the twelve courses of the tenth, giving 121 entries in 1890, 172 in 1891 and 223 in 1892 The men who enter continue to come chiefly from the British Isles and our own foreign possessions whilst a considerable sprinkling is drawn from the United States of America. Most of the men possess good degrees and high qualifications, and several lecturers from our Colonies have come to study the methods of teaching employed in the metropolis The opening of the Poor Law Infirmary has enabled the committee to invite the cooperation of several distinguished emeritus professors, and their vast experience has thus been made available for clinical teaching whilst a mass of material hitherto unused has been placed at their disposal The medical schools have found that this undertaking in no way clashes with their work, and in fact, serves to supplement it All the varied wants of practitioners, whether they have come from distant parts of the world or

are living in our midst, have as far as possible been met They have entered for a whole term, half a term (one month) or for one week, at proportionate fees, or they have attended all the lectures at one hospital for a term or for half a term, as best suited their wants and wishes A full prospectus can be obtained from Dr Fletcher Little, 60, Welbeck street, W

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT

REPORTS OF MEDICAL OFFICERS OF HEALTH

Kennington Parish—The death rate for this parish during 1891 was 18.4 per 1000, or 1.8 above the decennial average and 3.0 below that for the metropolis as a whole The zymotic rate was 1.6 per 1000 Dealing with this latter group, Dr Dudfield refers to measles and points out that it yet remains to be proved whether great advantage would accrue from its inclusion amongst the notifiable diseases This is a point as to which opinion varies a good deal, but as to which it is to be hoped we may soon have such information as has accumulated in different parts of the country Of 323 cases of scarlet fever that were recorded 206 were removed to hospital. The work of the sanitary inspectors is recorded, as is also the action taken under a number of different headings, such as offensive trades, refuse removal, slaughter houses, dairies &c, but a large part of the volume is taken up with general questions of legislation, the work of the Metropolitan Asylums Board, metropolitan sewage purification &c. In fact, the volume might not only properly bear, but well merit, a title indicating a work of much wider scope

Birkenhead Urban District—This report constitutes the 1st of an excellent series of annual reports by Mr Francis Vacher, who has since resigned his post as medical officer of health. The death rate for 1891 was 20.9 per 1000 the zymotic rate being 2.63, and amongst the latter group of diseases there figured 38 cases of typhus fever a disease the prevalence of which should make Birkenhead determine that it will not rest until it has abolished it Notification revealed 1007 cases of infectious disease, but some cases, including mild cases of typhus fever, must have remained unnotified In another respect the borough needs to mend its ways, for it still retains old fashioned midden privies and refuse nuisances are by no means exceptional Only 47 cases of infectious disease were removed to the isolation hospital, but it is to be hoped that when Birkenhead possesses a hospital which has some pretence of meeting its needs the authority will do something more than merely touch the fringe of this subject and that they will no longer fine people even 2s a day for going into the hospital for the protection of the public health. According to Mr Vacher, however, matters move very slowly as to this in the borough. Birkenhead is certainly not one of the progressive boroughs in this and other respects but it is not for the want of excellent skilled advice

Cardiff Urban District—The death rate in Cardiff during 1891 was 22.0 per 1000 the zymotic rate being 2.1 Dr Walford enters in much detail into the question of vital statistics and of the distribution, seasonally and otherwise, of diseases belonging to the zymotic group and he illustrates the various points by means of some excellent tables and diagrams He also reports that systematic inspection of the district is maintained, and he points out that new by laws have been obtained as to a number of matters bearing upon public health. Analysis of foods was made in 154 cases and in 13 cases they were found to be adulterated. In each case a fine varying from 10s to £5 was imposed, the smaller fines being in the main imposed in the case of milk supplies, the purity of which is so important to healthy infant life, whilst the larger one was reserved for a margarine case

County of Essex—Dr Thresh has again reviewed and summarised the annual reports of medical officers of health within the administrative county of Essex. The report deals separately with subjects such as death rates, sanitary progress, prevalence of certain diseases &c, and then it gives a summary of each of the reports on the several component sanitary districts A report of this class must have very considerable local value, above all, it affords to the different sanitary authorities concerned a means of comparing the several phases

of sanitary action taken or neglected in different parts of the county and the several results that have ensued.

Northampton Urban District—Mr L. F. Cogan reports that epidemic influenza was a cause of much mortality in Northampton in the early half of 1891, the general rate of mortality being 18.5 per 1000, a rate which exhibited an increase over that for 1890. The zymotic rate was 1.7 per 1000 and the infantile rate 164 per 1000 births. Notification of infectious disease works without difficulty and each intimation of preventable disease is utilised for the purposes of inspection and amendment of faulty sanitary circumstances. A new infectious hospital is now in use, both scarlet fever and enteric fever cases having been under isolation there during the year. Active sanitary work is in progress and an account is given of the action taken in a large number of small streets and courts in the borough. Indeed, 1889 cases were attended to, 969 sets of articles were disinfected and the general activity displayed is evidently having a marked influence upon the health of the town.

VITAL STATISTICS

HEALTH OF ENGLISH TOWNS.

In thirty three of the largest English towns 6194 births and 5775 deaths were registered during the week ending Jan. 7th. The annual rate of mortality in these towns, which had been 20.0 and 24.3 per 1000 in the preceding two weeks, further rose last week to 29.2, a higher rate than in any week since February last. In London the rate was 30.4 per 1000, while it averaged 28.3 in the thirty two provincial towns. The lowest rates in these towns were 18.2 in Croydon, 20.8 in Bristol, 21.6 in Cardiff and 22.0 in Nottingham, the highest rates were 33.6 in Manchester, 34.7 in Leeds, 36.5 in Bolton and 40.5 in Salford. The 5775 deaths included 431 which were referred to the principal zymotic diseases, against 382 and 473 in the preceding two weeks, of these, 134 resulted from measles, 107 from whooping cough, 65 from diphtheria, 64 from scarlet fever, 32 from diarrhoea, 25 from "fever" (principally enteric) and 4 from small pox. No fatal case of any of these diseases occurred last week in Birkenhead or in Huddersfield, in the other towns they caused the lowest death rates in Croydon, Norwich and Wolverhampton, and the highest rates in Bradford, Salford, Preston and Bolton. The greatest mortality from measles occurred in West Ham, Bradford, Hull, Brighton, Derby, Salford, Plymouth and Bolton, from scarlet fever in Burnley and Swansea, and from whooping cough in Leicester, Preston, Birmingham and Salford. The mortality from "fever" showed no marked excess in any of the large towns. The 65 deaths from diphtheria included 47 in London, 4 in Manchester, 3 in Birmingham, 2 in Portsmouth and 2 in Salford. Two fatal cases of small pox were registered in Oldham, 1 in Liverpool and 1 in Halifax, but not one in London or in any other of the thirty three large towns, 38 cases of this disease were under treatment in the Metropolitan Asylum Hospitals on Saturday last. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 3121, against 3626, 3299 and 3254 on the preceding three Saturdays, 202 new cases were admitted during the week, against 241 and 246 in the preceding two weeks. The deaths referred to diseases of the respiratory organs in London, which had increased from 365 to 523 in the preceding three weeks, further rose, under the influence of the recent cold weather, to 953 last week, and exceeded by 264 the corrected average. The causes of 140 or 2.4 per cent., of the deaths in the thirty three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Croydon, Cardiff, Bolton, Oldham and in six other smaller towns, the largest proportions of uncertified deaths were registered in Birmingham, Salford, Blackburn, Sheffield and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 24.0 and 28.5 per 1000 in the preceding two weeks, declined again to 27.1 during the week ending Jan. 7th, and was 2.2 per 1000 below the mean rate during the same period in the thirty three large English towns. The rates in the eight Scotch towns ranged from 20.7 in Greenock and 24.0 in Perth to 28.6 in Leith and 30.1 in Edinburgh. The 765 deaths in these towns included 79 which were referred to measles, 20 to whooping cough,

17 to scarlet fever, 12 to diarrhoea, 10 to diphtheria, 7 to "fever" and 1 to small pox. In all, 146 deaths resulted from these principal zymotic diseases, against 132 and 131 in the preceding two weeks. These 765 deaths were equal to an annual rate of 5.2 per 1000, which was 3.0 above the mean rate last week from the same diseases in the thirty three large English towns. The fatal cases of measles, which had been 86 in each of the preceding two weeks, declined to 79 last week, of which 32 occurred in Glasgow, 23 in Edinburgh, 9 in Dundee and 7 in Leith. The deaths referred to whooping cough, which had increased from 5 to 17 in the preceding three weeks, further rose to 20 last week and included 16 in Glasgow. The fatal cases of scarlet fever, which had declined from 18 to 7 in the preceding three weeks, rose again to 17 last week, of which 8 occurred in Glasgow, 6 in Edinburgh and 2 in Leith. The 10 deaths from diphtheria slightly exceeded the number in the preceding week and included 4 in Glasgow and 2 in Aberdeen. Of the 7 fatal cases of "fever" 4 occurred in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 163 and 212 in the preceding two weeks, further rose last week to 217 and exceeded by 17 the number in the corresponding week of last year. The causes of 83, or nearly 11 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN

The death rate in Dublin, which had increased from 22.0 to 33.4 per 1000 in the preceding six weeks, declined again to 31.3 during the week ending Jan. 7th. During the thirteen weeks of the last quarter the death rate in the city averaged 24.4 per 1000 against 18.4 in London and 23.9 in Edinburgh. The 210 deaths in Dublin during the week under notice showed a decline of 14 from the number in the preceding week, and included 11 which were referred to "fever," 3 to measles, 2 to whooping cough, 1 to diarrhoea, and not one either to small pox, scarlet fever, or diphtheria. In all, 17 deaths resulted from these principal zymotic diseases, equal to an annual rate of 2.5 per 1000, the zymotic death rate during the same period being 2.2 in London and 6.6 in Edinburgh. The deaths referred to different forms of "fever," which had been 9 and 4 in the preceding two weeks, rose again to 11 last week, a higher number than has been recorded in any week since December, 1891. The fatal cases of measles, which had been 2 and 1 in the preceding two weeks, rose to 3 last week. The two deaths from whooping cough corresponded with the number in the preceding week. The 210 deaths registered in Dublin last week included 24 of infants under one year of age and 72 of persons aged upwards of sixty years, the deaths of infants showed a slight decline, and those of elderly persons showed a slight further increase upon recent weekly numbers. Five inquest cases and 5 deaths from violence were registered, and 71, or one third, of the deaths occurred in public institutions. The causes of 21, or 10 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF LONDON DURING DECEMBER, 1892.

In the accompanying table will be found summarised complete statistics relating to sickness and mortality during the month of December in each of the forty one sanitary districts of London. With regard to the notified cases of infectious disease in the metropolis during last month, it appears that the number of persons reported to be suffering from one or other of the nine diseases in the accompanying table was equal to 11.0 per 1000 of the population, estimated at 4,263,294 persons in the middle of the year. Owing to the decreasing prevalence of scarlet fever in London this rate showed a further decline from those recorded in the preceding two months, which had been 17.9 and 14.6 per 1000. Amongst the various sanitary districts the rates last month were considerably below the average in Kensington, St. George Hanover square, St. James Westminster, Marylebone, St. Martin in the Fields, St. Olave Southwark, and Woolwich, while they showed the largest excess in Hackney, Clerkenwell, St. George in the East, Limehouse, Mile-end Old Town, Poplar and Plumstead. The prevalence of small pox in London showed a slight further increase during December, 37 cases being notified during the month, against 3, 10 and 32 in the preceding three months, of these 6 belonged to Hackney, 5 to Marylebone, 5 to Camberwell, 3 to Greenwich, and 3 to Whitechapel sanitary areas. The Metropolitan Asylum Hospitals contained

MONTHLY ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON — DECEMBER, 1892.
(Specially compiled for THE LANCET.)

Sanitary areas.	Estimated population in the middle of 1892.	NOTIFIED CASES OF INFECTIOUS DISEASE.										DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.										Deaths from all causes.	Death rate per 1000 living.	Deaths of infants under one year to 1000 births.		
		Small pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other con- tinued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small pox.	Miscellaneous.	Scarlet fever.	Diphtheria.	Whooping cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhoea.				Total.	Annual rate per 1000 persons living.
LONDON	4,283,281	37	1915	715	1	240	15	39	685	4	3607	11.0	1	141	104	234	90	—	43	1	53	867	2.0	6364	19.5	145
West District.																										
Puddle.	110,100	—	41	20	—	8	—	—	11	—	90	0.8	—	1	1	4	4	—	2	—	—	12	1.3	164	16.8	120
Hampton	166,721	—	32	18	—	4	—	—	21	—	80	0.7	—	—	3	2	1	—	—	—	—	11	0.9	166	14.6	146
Hammer-smith	166,012	—	40	6	—	5	—	—	11	—	67	0.7	—	2	5	3	3	—	1	—	—	8	1.0	123	15.0	132
Fulham	98,105	—	34	10	—	4	—	—	10	—	70	0.4	—	2	6	6	3	—	—	—	4	15	2.0	140	18.6	202
Chelsea	97,800	—	19	9	—	5	—	—	11	—	41	0.9	—	1	3	3	1	—	3	—	2	12	1.6	120	16.1	161
St George Hanover-square	78,046	—	13	8	—	10	—	—	3	—	30	0.6	—	—	3	3	1	—	—	—	—	12	2.0	100	18.0	170
Westminster	66,203	—	17	—	—	0	—	—	4	—	35	0.6	—	—	3	3	—	—	—	—	—	0	0.5	82	10.4	68
St. James Westminster	54,303	—	1	—	—	2	—	—	1	—	5	2.7	—	—	—	—	—	—	—	—	1	1	0.5	23	16.0	200
North Districts																										
Marylebone	140,700	5	30	14	—	11	—	2	18	—	73	7.0	—	1	4	5	4	—	3	—	3	20	1.0	210	20.0	148
Hamstead	71,632	—	19	10	—	13	—	—	7	—	48	8.4	—	—	9	3	7	—	—	—	—	3	0.6	66	11.8	171
St. Pancras	234,207	1	103	80	—	12	—	—	56	—	204	11.4	—	5	9	10	0	—	3	—	0	40	2.2	863	19.9	147
Islington	324,401	1	163	85	—	15	—	—	64	—	505	12.3	—	8	9	16	0	—	7	—	3	48	1.9	489	17.0	187
Hackney	250,370	0	144	30	—	15	—	—	42	—	260	13.8	—	7	0	13	7	—	2	—	3	42	2.3	318	17.0	180
Central Districts																										
St. Giles	89,071	—	14	12	—	2	—	—	5	—	23	11.0	—	1	1	0	—	—	2	—	—	10	8.3	71	23.7	205
St. Martin in the Fields	14,204	—	2	2	—	—	—	—	2	—	4	6.4	—	—	—	—	—	—	—	—	—	2	1.8	10	17.4	71
Strand	24,266	—	0	4	—	2	—	—	1	—	14	7.5	—	—	—	—	—	—	1	—	—	3	1.0	40	20.3	345
Holborn	32,913	—	7	6	—	3	—	—	4	—	21	8.3	—	—	—	—	—	—	—	—	—	2	0.8	62	24.6	272
Clerkenwell	65,468	1	37	32	—	3	—	—	15	—	78	15.6	—	—	1	3	3	—	—	—	3	12	2.4	121	24.1	139
St. Luke	41,860	1	13	3	—	—	—	—	12	—	20	10.0	—	—	1	5	1	—	—	—	—	0	1.0	74	23.1	68
City of London	86,692	—	17	13	—	1	—	—	4	—	35	12.4	—	1	1	4	1	—	—	—	—	7	2.6	55	19.5	187
East Districts.																										
Shoreditch	123,663	—	68	0	—	2	—	4	20	—	94	9.0	—	2	4	4	2	—	1	—	—	10	1.1	184	20.4	171
Rotham G. an	120,408	1	60	43	—	6	—	—	22	—	138	13.0	—	14	4	17	2	—	3	—	1	41	4.1	236	23.8	104
Whitechapel	74,853	2	84	13	—	0	—	—	10	—	95	11.3	—	8	4	7	1	—	2	—	1	11	1.0	127	22.1	130
St. George-in-the-Knob	45,315	2	20	10	—	2	—	—	11	—	61	14.7	—	—	—	8	—	—	—	—	—	14	4.0	87	25.0	164
Linehouse	67,480	—	43	9	—	0	—	—	11	—	70	15.0	—	—	—	8	—	—	—	—	—	7	1.9	99	23.4	148
Mile End Old Town	107,811	1	65	23	—	9	—	—	31	—	131	16.8	—	—	—	5	—	—	1	—	2	16	2.8	107	23.8	148
Poplar	107,857	—	131	20	—	17	—	3	38	—	210	17.0	—	13	5	7	2	—	3	—	0	33	2.8	284	22.1	148
South Districts.																										
St. Saviour Southwark	20,073	—	0	3	—	—	—	—	7	—	10	9.2	—	—	2	2	—	—	1	—	—	3	1.4	30	18.3	78
St. George Southwark	60,846	1	23	6	—	5	—	—	0	—	85	7.0	—	2	—	—	—	—	—	—	—	8	1.7	114	24.3	918
Newington	116,040	68	68	22	—	6	—	—	15	—	100	11.3	—	2	1	10	5	—	1	—	—	20	4.2	221	24.7	154
St. Olave Southwark	13,787	3	3	1	—	—	—	—	1	—	0	0.1	—	—	—	—	—	—	—	—	—	1	0.8	29	25.5	803
Barnimsey	84,440	1	41	10	—	0	—	—	10	—	76	11.6	—	1	—	—	—	—	—	—	—	5	1.0	98	19.8	112
Rotherhithe	89,469	—	8	5	—	—	—	—	0	—	22	7.8	—	—	—	—	—	—	—	—	—	14	0.8	128	22.7	148
Lambeth	277,917	1	131	40	—	12	—	—	41	—	241	11.3	—	17	6	15	8	—	—	—	—	40	3.2	441	20.7	130
Battersea	166,313	—	74	46	—	3	—	—	10	—	141	11.3	—	3	6	7	0	—	—	—	—	30	2.6	373	18.6	136
Wandsworth	264,003	6	123	25	—	9	—	—	23	—	142	11.3	—	11	3	9	5	—	2	—	4	10	1.6	190	15.1	118
Camberwell	166,734	8	76	21	—	9	—	—	36	—	139	10.7	—	18	0	9	4	—	—	—	3	34	1.8	241	18.4	129
Greenwich	74,673	1	21	10	—	3	—	—	10	—	60	8.7	—	3	3	2	4	—	1	—	2	37	2.8	275	21.1	166
Lewisham (excluding Fenge)	41,370	—	7	4	—	5	—	—	7	—	22	6.0	—	1	—	—	—	—	—	—	—	8	1.7	66	20.6	90
Woolwich	91,704	1	08	23	—	6	—	—	5	—	103	14.0	—	—	3	2	2	—	—	—	—	22	3.1	121	17.2	181
Port of London	—	—	—	—	—	1	—	—	6	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including 68 cases of membranous croup.

39 small pox patients at the end of December, against 6 and 20 at the end of the preceding two months, the weekly admissions averaged 10 against 1 and 5 in the previous two months. The prevalence of scarlet fever in London during December showed a considerable further decline from that recorded in recent months, this disease was proportionally most prevalent in Islington, Hackney, Clerkenwell, Bethnal Green, Lambhouse, Mile-end Old Town, Poplar, Newington and Plumstead sanitary areas. The Metropolitan Asylum Hospitals contained 3168 scarlet fever patients at the end of December, against 3843 and 3754 at the end of the preceding two months, the weekly admissions averaged 254, against 355, 429 and 363 in the previous three months. Diphtheria showed increasing prevalence during the month under notice, this disease was proportionally most prevalent in Paddington, St. Giles, Holborn, Clerkenwell, City of London, Bethnal Green, St. George in the East, Battersea and Plumstead sanitary areas. There were 288 cases of diphtheria under treatment in the Metropolitan Asylum Hospitals at the end of December, against 318, 312 and 255 at the end of the preceding three months, the weekly admissions averaged 53, against 54, 57 and 48 in the previous three months. Enteric fever was proportionally most prevalent during December in St. George Hanover square, Westminster, Hampstead and Poplar. The Metropolitan Asylum Hospitals contained 87 enteric fever patients at the end of December, against 124 and 113 at the end of the preceding two months, the weekly admissions averaged 12, against 15 in each of the previous two months. Erysipelas showed the highest proportional prevalence in St. Pancras, St. Luke, Mile end Old Town, Poplar, Greenwich and Lewisham sanitary areas. Five cases of puerperal fever were notified during December in St. Pancras, 4 in Hackney, 3 in Kensington, 3 in Fulham, 3 in Poplar and 3 in Wandsworth sanitary districts.

The mortality statistics in the accompanying table relate to the deaths of persons actually belonging to the various metropolitan sanitary districts, the deaths occurring in the institutions of London having been distributed amongst the various sanitary districts in which the patients had previously resided. The distribution of these deaths, and especially of those resulting from zymotic diseases, affords the most trustworthy data that can be secured upon which to calculate reliable rates of mortality. During the four weeks ending on Saturday, Dec. 31st, the deaths of 6364 persons belonging to London were registered, equal to an annual rate of 19.5 per 1000, against 15.7, 17.1 and 17.9 in the preceding three months. The lowest death rates during December in the various sanitary districts were 11.8 in Hampstead, 15.1 in Wandsworth, 15.0 in St. James Westminster, 15.6 in Kensington, 15.7 in Lewisham (excluding Penge), 15.9 in Hammersmith and 16.1 in Chelsea, in the other sanitary districts the rates ranged upwards to 24.1 in Clerkenwell, 24.6 in Holborn, 24.7 in Newington, 24.8 in St. George Southwark, 25.0 in St. George in the East, 25.5 in St. Olave Southwark, and 26.3 in the Strand. During the four weeks of December 667 deaths were referred to the principal zymotic diseases in London, of these, 224 resulted from diphtheria, 141 from measles, 104 from scarlet fever, 90 from whooping cough, 58 from diarrhoea, 49 from different forms of "fever" (including 48 from enteric fever and 1 from an ill defined form of continued fever) and 1 from small pox. These 667 deaths were equal to an annual rate of 2.0 per 1000, against rates declining from 3.9 to 1.8 in the preceding five months. Amongst the various sanitary districts the lowest zymotic death rates were recorded in Kensington, Hammersmith, St. James Westminster, Hampstead, Holborn, St. Olave Southwark, and Bermondsey, and the highest rates in St. Giles, Bethnal Green, St. George in the East, Poplar, Rotherhithe, Greenwich and Plumstead. Only 1 fatal case of small pox was registered in London during the month under notice, the corrected average number in the corresponding period of the preceding ten years being 18, this case belonged to St. George in the East sanitary district. The 141 deaths referred to measles were rather less than half the average, among the various sanitary districts this disease showed the highest proportional fatality in Bethnal Green, Poplar, Rotherhithe, Greenwich and Plumstead. The 104 fatal cases of scarlet fever were 6 below the corrected average, this disease was proportionally most fatal in Fulham, St. George in the East and Battersea sanitary districts. The 224 deaths referred to diphtheria were more than double the corrected average, this disease showed the highest proportional fatality in St. Giles, Clerkenwell, City of London, Bethnal Green, St. George in the East, Mile-end Old Town,

Newington and Plumstead sanitary districts. The 90 fatal cases of whooping cough were 123 below the corrected average, this disease was somewhat fatally prevalent in Newington, Battersea and Lewisham. The 49 deaths referred to different forms of "fever" were 25 below the corrected average, there was no marked excess of "fever" mortality in any of the sanitary districts during the month under notice. The 58 deaths from diarrhoea almost corresponded with the average. In conclusion, it may be stated that the mortality in London during December from these principal zymotic diseases in the aggregate was as much as 24 per cent. below the average.

Infant mortality in London, measured by the proportion of deaths under one year of age to registered births, was equal to 145 per 1000, and was considerably below the average, the lowest rates of infant mortality were recorded in Westminster, St. Martin in the Fields, St. Luke, St. Saviour Southwark, Bermondsey and Plumstead, the highest rate in St. James Westminster, St. Giles, Strand, Holborn, St. George Southwark, and St. Olave Southwark.

THE SERVICES

MOVEMENTS OF MEDICAL STAFF

SURGEON COLONEL PRESTON has embarked for Hong Kong to succeed Surgeon Colonel Paterson in the Administrative Medical Charge. Surgeon Lieutenant Colonel A. Retired List, has been appointed to the Medical Charge of Fleetwood. Surgeon Major Green has resumed his duties in Burma, after leave of absence in England, and Surgeon Major Carleton has arrived in Bombay on return from sick leave. Brigade Surgeon Scott has relinquished the half pay appointment at Sheffield. Surgeon Major Lane has been taken on the strength of the Portsmouth district. Surgeon Captains James and Westcott have arrived at Hong Kong on a tour of service. Surgeon Lieutenant Colonel Finlay has been transferred from Hounslow to Sherness. Surgeon Captain Cockerill has arrived in India on return from sick leave. Surgeon Captain Salvage has joined for duty at Woolwich, Surgeon Captain Philson at Aldershot, Surgeon Captain Greig at Dover and Surgeon Captain Squire at Shoeburyness.

ARMY MEDICAL STAFF

Surgeon Major Charles Bere, Medical Staff Corps, to Quartermaster, with the honorary rank of Lieutenant in Honorary Captain W. McKay, retired on temporary half pay (dated Jan 11th, 1893).

INDIA AND THE INDIAN MEDICAL SERVICE.

The following appointments have been made.—2nd Bengal Infantry Surgeon Lieutenant-Colonel T. Robinson, from the Medical Charge of the 1st Battalion 1st Gurkha Rifles to the Officiating Medical Charge of the Regiment. 4th Bengal Infantry Surgeon Captain E. Jennings to the Officiating Medical Charge of the Regiment, vice Surgeon Captain B. Basu. 5th Bengal Light Infantry Surgeon Captain C. N. Wimberley to the Officiating Medical Charge of the Regiment, vice Surgeon Captain U. N. Mukerji. 2nd Bengal Light Infantry Surgeon Lieutenant-Colonel T. Robinson from the Officiating to the Medical Charge of the Regiment, vice Surgeon Major G. A. Cones, retired. 14th Sikhs Surgeon Captain W. H. E. Woodwright to the Officiating Medical Charge of the Regiment, vice Surgeon Captain W. M. Lau. 16th Bengal Infantry Surgeon Captain B. C. Oldham from the Officiating Medical Charge of the 2nd Bengal Light Infantry to the Officiating Medical Charge of the Regiment, vice Surgeon Captain E. R. W. C. Carroll. 31st Punjab Infantry Surgeon Captain B. J. Singh, to the Officiating Medical Charge of the Regiment, vice Surgeon Captain J. G. Jordan. 34th Pioneer Regiment Surgeon Captain E. W. Hore to the Officiating Medical Charge of the Regiment, vice Surgeon Captain W. H. B. Robinson. 7th Regiment Madras Infantry Surgeon Lieutenant W. E. Armstrong, I.M.S., to the Officiating Medical Charge of the Regiment. Surgeon Lieutenant-Colonel M. Knox, I.M.S., Ranikhet, is appointed to hold Charge of the Civil Medical duties of Ranikhet in addition to his military duties from Nov 19th, 1892. 18th Bengal Infantry Surgeon Captain J. C. S. Vaughan to the Officiating Medical Charge of the Regiment, vice Surgeon Captain J. F. Evans. The mentioned officer has been granted permission to return duty.—Surgeon Lieutenant-Colonel R. A. Holmes, I.M.S., Superintendent, Central Prison, Lucknow. The services

Surgeon Captain R. J. Baker, M.A., M.D., have been placed at the disposal of the Government of India in the Foreign Department. Veterinary Captain F. J. Short has been appointed to the Civil Veterinary Department on probation and posted to the Central Provinces and Berar. Surgeon-Major J. C. Marsden has been appointed Civil Surgeon Negrapatam, in succession to Surgeon-Major Bain. Surgeon Captain A. Buchanan, Superintendent of the Raurpur Central Gaol, has been appointed to the Charge of the Nagpur Central Gaol. Surgeon P. W. O'Gorman, I.M.S., Bengal Establishment Medical Officer of the Mushkof Bolan State Railway, has been transferred from the P. W. Department to the Home Department. Surgeon Lieutenant Colonel A. A. MacRobin assumed Charge of the Civil Medical duties of Kasauli on the forenoon of Dec. 2nd, 1892, relieving Surgeon Lieutenant Colonel M. D. O'Connell. Surgeon Captain E. D. Brighurst-Farmar, A.M.S. has been granted an extension of leave from Dec. 7th 1892 to June 6th 1893 on medical certificate.

NAVAL MEDICAL SERVICE.

The following appointments have been made—Staff Surgeons Myles O. C. McSwiney to the *Eagle* (dated Jan. 5th 1893) and J. A. Collet to the *Collingwood* (undated). Surgeons Evan St. M. Nepean to the *Minotaur* (dated Jan. 5th, 1893), John H. Stenhouse to the *Collingwood* (undated), James M. France to the *Swiftsure* (dated Jan. 11th, 1893). Surgeon and Agent Thomas W. Fairman at Lyttelton New Zealand and James B. Lawson, M.D., at Rothesay (both dated Jan. 2nd, 1893).

YEOMANRY CAVALRY.

Hampshire (Carabiniers) Surgeon Lieutenant G. F. A. England, M.B. to be Surgeon Captain (dated Jan. 7th, 1893).

VOLUNTEER CORPS.

Engineer 1st West Riding of Yorkshire (Sheffield) Thomas Stewart Adair, M.B., to be Surgeon-Lieutenant (dated Jan. 7th, 1893)—*Rifle* 2nd Volunteer Battalion, the Gloucestershire Regiment. Honorary Assistant Surgeon C. W. Morris resigns his commission (dated Jan. 7th, 1893)—1st Volunteer Battalion Princess Charlotte of Wales (Royal Berkshire Regiment) Surgeon Captain J. H. Walters resigns his commission (dated Jan. 7th 1893)—2nd Volunteer Battalion, the Duke of Edinburgh's (Wiltshire Regiment) Surgeon Major E. N. Carless to be Surgeon Lieutenant-Colonel (dated Jan. 7th, 1893).

INFANTRY VOLUNTEER BRIGADE.

Manchester Brigade Surgeon-Captain Duncan, M.B., 3rd Volunteer Battalion the Manchester Regiment, to be Brigade-Surgeon Lieutenant-Colonel (dated Jan. 7th, 1893).

OBITUARY.

Brigade Surgeon J. Wallace, Retired List, Army Medical Staff, died at Hotel des Palmiers, Nice, on the 22nd ult. He joined the Army June 2nd 1857, became Surgeon, March 1st, 1873, Surgeon-Major, April 1st, 1873, and retired with the honorary rank of Brigade-Surgeon May 30th, 1885. He served in the Afghan War of 1878-79 (medal) and also in the Sudan Expedition, under Sir Gerald Graham in 1884 (medal and Khedive's star).

THE NEW ROYAL WARRANT.

We understand that the privilege of counting twelve months of half pay towards retirement lately conferred by Royal Warrant is to be enjoyed by all officers on the full pay list at the time of its promulgation. The effect of this is that every officer now serving will benefit by the concession, whether he was on half pay prior to the issue of the Warrant or not.

SURGEON COLONEL PRESTON, P.M.O.

The officers of the Medical Staff, Belfast district, entertained Surgeon Colonel Preston, P.M.O. at dinner on the 28th ult., at the Royal Avenue Hotel, prior to his departure for Hong Kong, he having been selected for the appointment of Principal Medical Officer of the China Station. The following were amongst those invited or present—Major General Godfrey Clerk, C.B., Surgeon Major General J. Sinclair, Col. O. Grady Haly, D.S.O., A.A.G., Colonel Dawson, 83rd Regimental District, Lieutenant-Colonel Glencross, 1st Lancashire Fusiliers, Lieutenant Colonel Parker R.E., Lieutenant-Colonel St. Paul, 2nd Rifle Brigade, Brigade-Surgeon M. Farland, Lieutenant-Colonel Chalice, A.S. Corps, Lieutenant Colonel Brereton, A.P.D., Major V. Johnson, D.A.A.G., Major Holland 15th H.A.S.s., Mr. Bond, Medical Staff Corps, Dr. Walton Browne, President North of Ireland Branch British Medical Association, and Dr. Whitaker President Ulster Medical Society.

MEDICAL EXAMINATION OF MILITIA OFFICERS.

Successful candidates for commissions in the army will in future be inspected by a medical board after the competitive examination and no candidate will be considered eligible for a commission unless certified by the board to be physically fit in all respects for Her Majesty's service.

THE HURDWAR FAIR.

The Government of the North Western Provinces and Oudh has appointed a committee to examine and report on the sanitary conditions of Hurdwar on the occasions of the great bathing fairs consisting of the Sanitary Commissioner to the Local Government as president with an engineer officer of experience and the magistrate of Saharanpur and associated with these officials five Hindu gentlemen who have been requested to aid the Government with their advice. This is a wise policy to adopt and we trust that measures will be devised for making the sanitary and other arrangements for these fairs satisfactory—especially in the way of securing a good water supply for potable purposes and fresh running water for the bathing place of the pilgrims. Arrangements against overcrowding and fouling of the surface soil are also required, together with power to break up and disperse the assembly in case of need.

THE NEW GERMAN ARMY BILL.

This continues to excite great attention in Germany and on the Continent generally. During the last twenty years the cost of military defences in Europe has nearly doubled and the enormous expenditure under which the nations are groaning can scarcely be increased further—indeed, the wonder is how it can be borne, and how it is proposed to find the number of medical officers that will be required if these forces ever come into collision armed as they are with quick-firing rifles and arms of precision. This great increase of European armies has taken place since the termination of the Franco-German War, and the loss of Alsace-Lorraine by the French naturally gave rise to the enormous increase of their army, which is now said to number 4,350,000 men. If the new Army Bill passes the German army will in a few years have a strength of 5,000,000. The strongest military Power in Europe, however is Russia, which has at its disposal 6,000,000 soldiers to carry out a policy which can scarcely be described as one of peace and goodwill to men.

THE RUPEE AND INDIAN SERVICE.

Service in India is not very popular at the present time and medical officers are not likely to be attracted to that country by the emoluments it offers. The fallen and still falling rupee has become a serious question, meetings are being held in the large cities of India—by the Bombay branch of the Indian Currency Association, for example—at which resolutions are passed for petitioning the Government of India to urge the Secretary of State to sanction the immediate closing of the mints for the coinage of silver as the only prompt way of relieving the Government of its financial troubles. India, it is urged, is the only country where the mints are open to an unrestricted coinage of silver.

Correspondence.

Audi alteram partem.

"THE LATE DR. WALSHÉ"

To the Editors of THE LANCET

SIR—It would be a pity if no voice were to go forth from Scotland as a tribute to the late Dr. Walshé, and although it may be in one sense a superfluity to praise where all are of one mind, yet you will perhaps allow me a few lines to echo as it were the voices of your English correspondents. My acquaintance with Dr. Walshé (no doubt far less intimate than theirs) goes back a long way—to the time, in fact, when he was still a clinical teacher in University College Hospital and just emerging into consulting practice, in the presence of such men as Watson, Latham and C. J. B. Williams. Even in these days I can distinctly recall the impression on my own mind as an outsider (so to speak) in London professional circles that in precision of method and fulness of individual information Dr. Walshé was difficult to surpass and I think I should have placed him even then first

39 small pox patients at the end of December, against 6 and 20 at the end of the preceding two months, the weekly admissions averaged 10, against 1 and 5 in the previous two months. The prevalence of scarlet fever in London during December showed a considerable further decline from that recorded in recent months, this disease was proportionally most prevalent in Islington, Hackney, Clerkenwell, Bethnal Green, Limehouse, Mile-end Old Town, Poplar, Newington and Plumstead sanitary areas. The Metropolitan Asylum Hospitals contained 3168 scarlet fever patients at the end of December, against 3843 and 3754 at the end of the preceding two months, the weekly admissions averaged 254, against 355, 429 and 363 in the previous three months. Diphtheria showed increasing prevalence during the month under notice, this disease was proportionally most prevalent in Paddington, St. Giles, Holborn, Clerkenwell City of London, Bethnal Green, St. George in the East, Battersea and Plumstead sanitary areas. There were 288 cases of diphtheria under treatment in the Metropolitan Asylum Hospitals at the end of December, against 318, 312 and 255 at the end of the preceding three months, the weekly admissions averaged 53, against 54, 57 and 48 in the previous three months. Enteric fever was proportionally most prevalent during December in St. George Hanover square, Westminster, Hampstead and Poplar. The Metropolitan Asylum Hospitals contained 87 enteric fever patients at the end of December, against 124 and 113 at the end of the preceding two months, the weekly admissions averaged 12, against 15 in each of the previous two months. Erysipelas showed the highest proportional prevalence in St. Pancras, St. Luke, Mile-end Old Town, Poplar, Greenwich and Lewisham sanitary areas. Five cases of puerperal fever were notified during December in St. Pancras, 4 in Hackney, 3 in Kensington, 3 in Fulham, 3 in Poplar and 3 in Wandsworth sanitary districts.

The mortality statistics in the accompanying table relate to the deaths of persons actually belonging to the various metropolitan sanitary districts, the deaths occurring in the institutions of London having been distributed amongst the various sanitary districts in which the patients had previously resided. The distribution of these deaths, and especially of those resulting from zymotic diseases, affords the most trustworthy data that can be secured upon which to calculate reliable rates of mortality. During the four weeks ending on Saturday, Dec 31st, the deaths of 6364 persons belonging to London were registered, equal to an annual rate of 19.5 per 1000 against 15.7, 17.1 and 17.9 in the preceding three months. The lowest death rates during December in the various sanitary districts were 11.8 in Hampstead, 15.1 in Wandsworth, 15.0 in St. James Westminster, 15.6 in Kensington, 15.7 in Lewisham (excluding Penge), 15.9 in Hammersmith and 16.1 in Chelsea, in the other sanitary districts the rates ranged upwards to 24.1 in Clerkenwell, 24.6 in Holborn, 24.7 in Newington, 24.8 in St. George Southwark, 25.0 in St. George in the East, 25.5 in St. Olave Southwark, and 26.3 in the Strand. During the four weeks of December 667 deaths were referred to the principal zymotic diseases in London, of these, 224 resulted from diphtheria, 141 from measles, 104 from scarlet fever, 90 from whooping cough, 58 from diarrhoea, 49 from different forms of 'fever' (including 48 from enteric fever and 1 from an ill defined form of continued fever) and 1 from small pox. These 667 deaths were equal to an annual rate of 2.0 per 1000, against rates declining from 3.9 to 1.8 in the preceding five months. Amongst the various sanitary districts the lowest zymotic death rates were recorded in Kensington, Hammersmith, St. James Westminster, Hampstead, Holborn St. Olave Southwark, and Bermondsey, and the highest rates in St. Giles, Bethnal Green, St. George in the East, Poplar, Rotherhithe, Greenwich and Plumstead. Only 1 fatal case of small pox was registered in London during the month under notice, the corrected average number in the corresponding period of the preceding ten years being 18, this case belonged to St. George in the East sanitary district. The 141 deaths referred to measles were rather less than half the average, among the various sanitary districts this disease showed the highest proportional fatality in Bethnal Green, Poplar, Rotherhithe, Greenwich and Plumstead. The 104 fatal cases of scarlet fever were 6 below the corrected average, this disease was proportionally most fatal in Fulham, St. George in the East and Battersea sanitary districts. The 224 deaths referred to diphtheria were more than double the corrected average, this disease showed the highest proportional fatality in St. Giles, Clerkenwell City of London, Bethnal Green, St. George in the East, Mile-end Old Town,

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THE SERVICES

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new buildings connected with the Royal Infirmary, Aberdeen, are completed Professor Cash, the Teacher of Materia Medica and Therapeutics in the University of Aberdeen, is to have wards handed over to him. This demonstrates that the Aberdeen medical faculty is alive to its interests, and Glasgow University will soon, perhaps be the only great medical school in the kingdom so ingloriously unique in its abnormality as regards therapeutics.

I am, Sirs, your obedient servant

JAMES W. CLELAND, Hon. Sec.

Glasgow University Students' Representative Council, Jan. 10th, 1893.

HOSPITALS AS CENTRES OF STUDY

To the Editors of THE LANCET

SIRS,—We have throughout England many towns containing hospitals to which are attached post-mortem rooms. Grouped round each hospital as a centre are town and suburban practices, the principals of which are appointed officers of the hospital. Outside these come groups of country practices. It would be a great boon to practitioners and the public also if more use could be made of these hospitals as centres of study, especially as regards surgery. It would cost but little trouble to arrange courses of operative surgery on the dead body if clinical societies of the various towns would take up the matter. The chief obstacle would be public opinion, and I believe that great and influential organs like THE LANCET could, if they thought fit, educate public started by itself the public of that district would probably opinion. If many centres agreed simultaneously to take up the matter much good might be done. But if only one centre make up what it calls its mind and stamp out an honest endeavour to improve the skill and worth of its own medical advisers. Hoping that some of your readers may express an opinion on this idea, I remain, Sirs, yours truly,
Jan. 8th, 1893. L.R.C.P., M.R.C.S.

LIVERPOOL

(FROM OUR OWN CORRESPONDENT)

Hospital Sunday

LAST Sunday was the twenty third anniversary of Hospital Sunday in Liverpool, the first being observed on Jan. 8th, 1871. The second Sunday in the year was after due consideration agreed upon by the local clergy and ministers as the day on which the collections should be made. For the first few years the weather on Hospital Sunday was remarkably good and the collections realised sums rising from £4685 in 1871 to £8848 in 1874. This was the maximum sum raised in church and chapel collections, the following years showing fluctuations, whether owing to the inclement weather or to the depression of trade, or to both, it would be difficult to say. But the fact remains that the lowest sum raised by this means since 1874 was £6029 in 1887, which gradually improved to £6973 in 1891. Last year there was again a falling off and great efforts have been made to prevent its repetition this year. The weather was most inclement, but while some of the collections show a decrease, an almost equal number show an increase over the sum collected last year. The mayor, Mr R. D. Holt, attended in state the Renshaw street Unitarian Chapel, of which congregation he has been a member for many years past. After an eloquent sermon by the Rev J. P. Jacks a collection was made which amounted to the magnificent sum of £709 9s. 8d. Many other handsome collections are announced, but it would be premature to attempt any estimate of the total at present.

Action against a Cafe Company

In October last a case was before the Court of Passage in which the plaintiff, an inspector of agents in a life insurance company, sued the representatives of the Clerks' Cafe Company for compensation for illness alleged to be caused by the defendants supplying him with bad food at the Economic Cafe. The jury disagreed in consequence of which the case was again heard on the 5th and 6th inst. The plaintiff partook of curried steak and stewed rhubarb on June 27th, 1892. He was immediately seized with violent vomiting and diarrhoea and felt strange in his head. From this date till Sept 5th no solid food would stay on his stomach. During all this time he was under medical treatment and lost about three stones in weight. On his behalf medical evidence was given to the

effect that the symptoms might be due to putrid meat. For the defence it was contended that none but wholesome meat was supplied to the defendants' cafes, of which they had eight. Medical evidence given for the defendants was to the effect that the symptoms occurred too rapidly to be the result of eating putrid meat. The jury returned a verdict for the defendants.

Small-pox and Revaccination

Although small-pox prevails both in Manchester and Warrington, between both of which towns and Liverpool there is constant communication, the disease has not made any advance here, any cases that may occur being promptly removed to hospital. The prosecution of the two women (noticed in a previous letter) for concealing the disease has had a very wholesome effect in not only deterring others from doing the same, but in showing all the advantage of working with, not against, the sanitary officers. The select committee who regulate the affairs of the parish of Liverpool afford every facility to those who desire to be revaccinated.

Insanitary Property in Liverpool

On the 7th inst. Mr Walton, Q.C., M.P. the arbitrator appointed by the Local Government Board to consider the claims for compensation made in regard to property which had been declared to be insanitary, concluded his inquiry. As a proof of the propriety of "presenting" the property in question, it may be mentioned that one man claimed in respect of twelve houses in two courts of two streets. The property was freehold and comprised 575 square yards. It was alleged to be insanitary because of the absence of water-closet accommodation, but the claimant contended that this difficulty could be got over by means of structural alterations. The gross rental was given as £95 and the net rental as £46, but the claimant declined to produce his rent-book. Dr Taylor, medical officer of health for Liverpool, Dr Hope, assistant medical officer of health, and Dr Littlejohn of Edinburgh had all condemned the houses as insanitary and as incapable of being made sanitary. The arbitrator's award will be forwarded to the town clerk.

Taking the Oath with Uplifted Hand

A copy of the resolutions passed at the last ordinary meeting of the Liverpool Medical Institution is published in each of the three local daily papers. One of them, the *Liverpool Mercury*, warmly encourages the new mode of oath taking, and suggests that all similar organisations of the faculty should follow the example set by the Liverpool Medical Institution. At the trial in the Court of Passage mentioned above the first medical witness, Dr Smart, declined the book and claimed to be sworn with uplifted hand, which was at once done. His example was followed by all the other medical witnesses, Drs Nisbet and Hushy, Professor Paul, Drs Mann and Taylor, and Mr Vacher. These gentlemen deserve great credit for giving such prompt effect to the resolutions alluded to, and it is now to be hoped that the practice of kissing the book will rapidly become a thing of the past.

January 11th.

NORTHERN COUNTIES NOTES

(FROM OUR OWN CORRESPONDENT)

Small-pox in the Northern Counties

THE introduction of small pox by tramps and casuals is giving our authorities much concern. Cases have occurred and have spread in this way at Sunderland and Newcastle workhouses. In Durham city, too cases have been reported and, indeed, all over the county of Durham the disease has got a footing.

Lecture on Pedigrees by Professor Milnes Marshall

Dr Milnes Marshall, Professor of Zoology in Owens College, Manchester, delivered an admirable lecture in Newcastle this week on Pedigrees. He illustrated some of his theories by familiar animals such as the horse, which he said is descended from a prehistoric animal with five fingers or toes on each leg now represented by the hoof, but the splints, he said, were the representatives of the four other toes which had disappeared, but were still shown in fossil equine animals.

The Bones Museum at Barnard Castle

I am sorry to say that at a meeting of the trustees and executors of the will of Benoit Josephine Bowes, Countess of Montalto held lately they decided to close the splendid museum and park at Barnard Castle to the public, except

amongst English auscultators. In view of the successive editions of his (now subdivided) works on the heart and the lungs respectively, there will be few, I think, who will now question this precedence. In spite of a tendency to over refinement, which makes it more difficult, perhaps, apart from the personal traditions of his teaching, to recommend these works to students, I have always placed them in the very front rank, giving explanations in detail where the difficulties come in, or where I fancy they come in, so as to be perplexing to students not bred in University College traditions or by Dr Walshe's own pupils. This explained, Dr Walshe's books are even now better worth studying in many respects than any of their more modern rivals, and certainly beyond all comparison superior in impartiality and breadth of view to Skoda's running commentaries on Laennec. The curious anecdote by Dr Wilks in THE LANCET of to-day goes to show that, with all his admiration for Louis as his early teacher and his high estimate of the numerical method Dr Walshe was fully alive to the limitations of the method and regarded it, as many of us now are disposed to regard the "pre Raphaelite" school in art, as only a "stepping stone to higher things." My personal opportunities of meeting Dr Walshe occurred at such rare and distant intervals that the sum of them does not come to much, but I can well understand and appreciate all that is said of him from the higher point of view of his character and genius. Dr Walshe's was not, however, the genius that scornfully rejects details or aims at posing in an attitude of mental superiority. He was *naturæ minister et interpres*, but chiefly and, above all, the latter.

I am, Sirs, yours truly,

Glasgow, Jan. 7th, 1893. W T GAIRDNER, LL.D., M.D. Edin.

BICARBONATE OF POTASH IN INFLUENZA

To the Editors of THE LANCET

SIRS,—In your "Annus Medicus 1892," under the heading "Therapeutic Progress," the following sentence occurs: "Influenza in the earlier part of the year, and cholera in the autumn, produced a crop of specifics of which little need be said beyond noting that the efficacy claimed for them was, as usual, greatest during the decline of the epidemics." The writer seems to convey the impression that no progress worth noting has been made during 1892 in the treatment of influenza and cholera. I demur to the accuracy of this statement in the case of influenza. Three years ago, by a process of reasoning from facts placed at my disposal (as at the disposal of all) by the most reliable living bacteriologists, I hoped that I had found an effectual and speedy remedy for influenza. On July 16th, 1891, I communicated my discovery to the members of the Border Counties Branch of the British Medical Association in an address which, as president, my position imposed upon me.

An abstract of my address appeared in THE LANCET on Dec 19th, 1891. I naturally watched the subsequent issues with expectancy, but the article seemed to me at the time to have fallen flat and to have arrested very little attention, however, it was not quite so, as I afterwards found out. You very liberally published a leader in THE LANCET of Jan 23rd, 1892, calling the attention of the profession to my conclusions but declining insertion of the evidence I adduced as to the value of my remedy. The bold, fearless and fair statements in that leader more than atoned for the airs of superiority assumed by the writer. One of the best known and most respected teachers in the University of Edinburgh had previously stated, from personal knowledge, his full conviction of the thoroughly satisfactory character of the new treatment. I give his *ipsissima verba* from his letter now lying before me: "My strength never suffered, and indeed my rapid recovery and immunity from all of the unpleasant after consequences of influenza made it somewhat difficult for me to believe that I had actually successfully combated an affection which has led to such consequences in some of its victims. However, there can be no doubt about the correctness of the diagnosis, the value of your remedy, or the satisfactory results of its energetic use." In the most manly and straightforward manner he has given me leave to make use of his name and experience in support of my contention. I refer to Dr David Hepburn, F.R.S. Edin. &c. Out of the many communications which you must have received in response to your invitation, some from gentlemen well qualified from practical experience to form a reliable opinion, there were some which you did not insert. But I assume, acting on your editorial judgment, that the two letters you printed

—the only letters that referred to me by name—were fairly representative of your correspondents, placing before the profession the general sense of their experience. Those letters were confirmatory of my position. Mr Pugin Thornton of Canterbury (THE LANCET, Jan. 30th, 1892, page 279), a well known medical author, a valued contributor to Sir Richard Quain's Dictionary of Medicine, and a man of ripe experience and acute observation, says: "During this epidemic I have used nothing else but bicarbonate of potash, giving it, as recommended by Mr Crerar, in half drachm doses in milk every three hours as long as the fever lasted. Last epidemic I gave salicylate of soda with bromide of ammonium, after an injection of apomorphia or an aperient, and the bicarbonate treatment I find by far the best." This was not "during the decline of the epidemic," as asserted in your summary of Dec 31st, 1892, but during the whole of the second epidemic from its commencement up to that date, and Mr Thornton draws a careful comparison between my treatment and the accredited treatment previously used, entirely to my advantage. I needed not Mr Thornton's testimony, valuable as it is, to establish my contention.

"It only serves to thicken other proofs
That do demonstrate (by no means) thinly."

To any person reasonably open to conviction the evidence already placed before the profession is quite conclusive. I further affirm most emphatically that it was in severe cases and in the acute stages of the epidemic that the value of my treatment was most conspicuous. Also let me not be misapprehended. The patient ought to be under the care of his physician, who will adopt the usual precautionary measures in such cases, but the bicarbonate will be his sheet-anchor. Furthermore, as I intend when leisure serves to write a monograph on this subject, in which my views on the etiology, pathology and treatment of influenza will be fully expressed, unfettered by the limitations necessarily imposed on an article in a weekly journal, I will not trespass further on your valuable space. Meantime, as I have been singled out in your Annus Medicus for a thinly veiled attack, I have confidence that you will in common fairness give me the opportunity of defending myself by inserting this *apologia pro medicina mea*. I am, Sirs, yours truly

JOHN CRERAR, M.R.C.P. Edin.

** We have been compelled to abbreviate Mr Crerar's letter, but we think he is mistaken in supposing that we have received many communications on this subject. To the best of our recollection the letters referred to by him as being inserted in our columns were all that were received by us. We might also point out that the summary to which he takes exception refers to the year 1892 and not 1891, when he first drew attention to the efficacy of bicarbonate of potash in influenza. He must know that many other drugs have been alleged to be of specific action in this disease by other writers in this country and abroad. We shall await his projected monograph with interest.—ED. L.

THE TEACHING OF THERAPEUTICS AT GLASGOW

To the Editors of THE LANCET

SIRS,—At the last meeting of the Glasgow University Students Representative Council Mr de Hyde-Wyatt submitted the following motion: "That in view of the change in the Medical Ordinance—which now reads *Materia Medica* and *Therapeutics* instead of the old reading, *Materia Medica* and *Pharmacy*—that a deputation wait upon the Senate requesting them to ask the managers and directors of the Western Infirmary to place wards at the disposal of the Professor of *Materia Medica* and *Therapeutics* in the University of Glasgow in order that he may be able to give full and proper instruction in that most highly important of the medical sciences—therapeutics, the art and science of healing." This was carried unanimously and referred to the Grand Committee in Medicine to take proper steps. As the result the latter body elected a deputation which will wait upon the Senate as soon as possible and ask their cooperation in rectifying the anomalous state of affairs which obtains that Dr M. Charters, the Professor of *Materia Medica* and *Therapeutics*, having no wards at his disposition can only teach therapeutics in the lecture room. This is preposterous for this subject is pre eminently a practical one. When the

new buildings connected with the Royal Infirmary, Aberdeen, are completed Professor Cash, the Teacher of Materia Medica and Therapeutics in the University of Aberdeen, is to have wards handed over to him. This demonstrates that the Aberdeen medical faculty is alive to its interests, and Glasgow University will soon, perhaps, be the only great medical school in the kingdom so ingloriously unique in its abnormality as regards therapeutics.

I am, Sirs, your obedient servant,

JAMES W. CLELAND, Hon. Sec.
Glasgow University Students' Representative Council, Jan. 10th, 1893

HOSPITALS AS CENTRES OF STUDY

To the Editors of THE LANCET

SIRS,—We have throughout England many towns containing hospitals to which are attached post-mortem rooms. Grouped round each hospital as a centre are town and suburban practices, the principals of which are appointed officers of the hospital. Outside these come groups of country practices. It would be a great boon to practitioners and the public also if more use could be made of these hospitals as centres of study, especially as regards surgery. It would cost but little trouble to arrange courses of operative surgery on the dead body if clinical societies of the various towns would take up the matter. The chief obstacle would be public opinion, and I believe that great and influential organs like THE LANCET could, if they thought fit, educate public started by itself the public of that district would probably opinion. If many centres agreed simultaneously to take up the matter much good might be done. But if only one centre make up what it calls its mind and stamp out an honest endeavour to improve the skill and worth of its own medical advisers. Hoping that some of your readers may express an opinion on this idea. I remain, Sirs, yours truly,
Jan. 8th, 1893. L.R.C.P., M.R.C.S.

LIVERPOOL

(FROM OUR OWN CORRESPONDENT)

Hospital Sunday

LAST Sunday was the twenty-third anniversary of Hospital Sunday in Liverpool, the first being observed on Jan. 8th, 1871. The second Sunday in the year was after due consideration agreed upon by the local clergy and ministers as the day on which the collections should be made. For the first few years the weather on Hospital Sunday was remarkably good and the collections realised sums rising from £4685 in 1871 to £8848 in 1874. This was the maximum sum raised in church and chapel collections, the following years showing fluctuations whether owing to the inclement weather or to the depression of trade, or to both, it would be difficult to say. But the fact remains that the lowest sum raised by this means since 1874 was £6029 in 1887, which gradually improved to £6973 in 1891. Last year there was again a falling off and great efforts have been made to prevent its repetition this year. The weather was most inclement, but while some of the collections show a decrease, an almost equal number show an increase over the sum collected last year. The mayor, Mr. R. D. Holt, attended in state the Renshaw street Unitarian Chapel, of which congregation he has been a member for many years past. After an eloquent sermon by the Rev. J. P. Jacks a collection was made which amounted to the magnificent sum of £709 9s. 8d. Many other handsome collections are announced, but it would be premature to attempt any estimate of the total at present.

Action against a Cafe Company

In October last a case was before the Court of Passage in which the plaintiff, an inspector of agents in a life insurance company, sued the representatives of the Clerks' Café Company for compensation for illness alleged to be caused by the defendants supplying him with bad food at the Economic Café. The jury disagreed in consequence of which the case was again heard on the 5th and 6th inst. The plaintiff partook of curried steak and stewed rhubarb on June 27th, 1892. He was immediately seized with violent vomiting and diarrhoea and felt stoned in his head. From this date till Sept. 5th no solid food would stay on his stomach. During all this time he was under medical treatment and lost about three stones in weight. On his behalf medical evidence was given to the

effect that the symptoms might be due to putrid meat. For the defence it was contended that none but wholesome meat was supplied to the defendants' cafés, of which they had eight. Medical evidence given for the defendants was to the effect that the symptoms occurred too rapidly to be the result of eating putrid meat. The jury returned a verdict for the defendants.

Small-pox and Revaccination

Although small pox prevails both in Manchester and Warrington, between both of which towns and Liverpool there is constant communication the disease has not made any advance here, any cases that may occur being promptly removed to hospital. The prosecution of the two women (noticed in a previous letter) for concealing the disease has had a very wholesome effect in not only deterring others from doing the same, but in showing all the advantage of working with, not against, the sanitary officers. The select committee who regulate the affairs of the parish of Liverpool afford every facility to those who desire to be revaccinated.

Insanitary Property in Liverpool

On the 7th inst. Mr. Walton, Q.C. M.P., the arbitrator appointed by the Local Government Board to consider the claims for compensation made in regard to property which had been declared to be insanitary, concluded his inquiry. As a proof of the propriety of "presenting" the property in question, it may be mentioned that one man claimed in respect of twelve houses in two courts of two streets. The property was freehold and comprised 575 square yards. It was alleged to be insanitary because of the absence of water-closet accommodation, but the claimant contended that this difficulty could be got over by means of structural alterations. The gross rental was given as £95 and the net rental as £46, but the claimant declined to produce his rent-book. Dr. Taylor, medical officer of health for Liverpool, Dr. Hope, assistant medical officer of health, and Dr. Littlejohn of Edinburgh had all condemned the houses as insanitary and as incapable of being made sanitary. The arbitrator's award will be forwarded to the town clerk.

Taking the Oath with Uplifted Hand

A copy of the resolutions passed at the last ordinary meeting of the Liverpool Medical Institution is published in each of the three local daily papers. One of them, the *Liverpool Mercury*, warmly encourages the new mode of oath-taking, and suggests that all similar organisations of the faculty should follow the example set by the Liverpool Medical Institution. At the trial in the Court of Passage mentioned above the first medical witness, Dr. Smart, declined the book and claimed to be sworn with uplifted hand, which was at once done. His example was followed by all the other medical witnesses, Drs. Nisbet and Hushy, Professor Paul, Drs. Mann and Taylor, and Mr. Vacher. These gentlemen deserve great credit for giving such prompt effect to the resolutions alluded to, and it is now to be hoped that the practice of kissing the book will rapidly become a thing of the past.

January 11th.

NORTHERN COUNTIES NOTES

(FROM OUR OWN CORRESPONDENT)

Small-pox in the Northern Counties

THE introduction of small pox by tramps and casuals is giving our authorities much concern. Cases have occurred and have spread in this way at Sunderland and Newcastle workhouses. In Durham city, too, cases have been reported and, indeed, all over the county of Durham the disease has got a footing.

Lecture on Pedigrees by Professor Milnes Marshall

Dr. Milnes Marshall, Professor of Zoology in Owens College, Manchester, delivered an admirable lecture in Newcastle this week on Pedigrees. He illustrated some of his theses by familiar animals, such as the horse, which he said is descended from a prehistoric animal with five fingers or toes on each leg now represented by the hoof, but the splints, he said, were the representatives of the four other toes which had disappeared, but were still shown in fossil equine animals.

The Bones Museum at Barnard Castle

I am sorry to say that at a meeting of the trustees and executors of the will of Benoit Josephine Bowes, Countess of Montalto held lately they decided to close the splendid museum and park at Barnard Castle to the public, except

under certain limitations and by ticket. These restrictions have become necessary by the action of the Charity Commissioners refusing an adequate amount to support the museum, and pending the winding up of the estate of the late Mr John Bowes, who was the husband of the Countess of Montalto, the donor of the museum, this is to be the more regretted as there is stated to be sufficient from the estate when wound up to carry out the full intentions of the benefactors.

Carlisle

Last week the usual ball in aid of the Cumberland Infirmary was held in the County Hall, Carlisle. It is two years since the last infirmary ball was held, as the one arranged for last year had to be abandoned owing to the death of Bishop Goodwin. However, last week's festivity seems to have been a great success, as over 250 tickets were taken and it was attended by most of the county families. At the last meeting of the Carlisle Sanitary Authority a letter was read from Dr Lediard pointing out the prevalence of diphtheria and its connexion with what Dr Lediard describes as the filthiest spot in their city, which, he further says, is in the very centre of Carlisle, and he thinks that there is probably not a single member of the Health Committee who was aware that such a dangerous state of matters existed.

Shocking Accident from an Explosion.

On Friday last a shocking accident happened from an explosion at Stanhope, county Durham. A man was carrying a pound of nitro gelatine from the town of Stanhope to the quarry where he worked when it exploded, blowing off both his hands and otherwise injuring him. He was attended by Dr Livingstone, but died the next day.

Death from Chromo Lead Poisoning

A death is reported as having taken place at Jarrow from lead poisoning in a workman aged forty who had been employed as a separator for the past sixteen years. The medical evidence at the inquest was clear as to the cause of death. I have frequently recorded fatalities from lead in the cases of female workers, but very rarely in workmen.

Newcastle-on Tyne, Jan. 11th.

SCOTLAND

(FROM OUR OWN CORRESPONDENT)

The Prevention of Waste of Water in Edinburgh

A DRAFT REPORT by the engineers of the Edinburgh Water Trust was submitted to a meeting of the Trust held on Monday. Three districts have been placed under fixed Deacon meters, twelve under Siemens's meters, and twenty six have been laid out and provided with travelling Deacon meters. In connexion with the travelling Deacon meters during the month of November the inspectors sounded 2488 stopcocks, of which number 578 allowed the water to pass during the night. Examining the house fittings supplied by these stopcocks there were found 15 leaden service pipes which had burst, 368 wasting ballcocks, 230 wasting water closets and 130 wasting taps. With regard to the pressure-relieving tanks which had been introduced, the consumption of water had perceptibly decreased during the time they had been in operation. The general conclusion arrived at is that faulty ballcocks are the chief cause of the waste, and that until these are replaced by others of a stronger pattern it will not be possible to effect any material reduction in the consumption of water. To carry out the suggestions of the engineers it is proposed that fifty fixed Deacon meters be ordered. It is mentioned that between 1887 and 1892 the consumption per head decreased from 44 gallons to 39½ gallons. During the last few months, as the result of more rigid inspection of waste and the introduction of pressure-relieving tanks the consumption has fallen to 37 gallons per head—that is, 5 gallons less than in 1889, when night inspection was commenced.

Edinburgh Royal Infirmary

Surgeon General Lithgow has entered upon his duties as Superintendent of the Edinburgh Royal Infirmary, in succession to the late Mr Fyson.

Cookery Demonstrations to Medical Students

As has been the practice for some years past a course of demonstrations of sick room cookery is being given to medical students in one of the theatres of the Edinburgh Royal Infirmary. The course commenced on Saturday last.

Health of Edinburgh.

The mortality last week was 142, making the death rate 23 per 1000. Diseases of the chest accounted for 75 deaths and zymotic diseases for 29, of which 1 was due to typhoid fever, 4 to scarlet fever, 23 to measles and 1 to whooping-cough. The intimations for the week were Typhoid fever 4, diphtheria 3, scarlet fever 56 and measles 263.

The Leith Local Authority and a Local Practitioner

A correspondence has passed between the Public Health Committee of the Leith Town Council and one of the practitioners in the burgh regarding a case of measles said to have occurred in a milk-shop. He was asked if he had told the keeper of the shop that there was no necessity for shutting the shop. The doctor has absolutely declined to be drawn on the subject, reminding them that he is not compelled to report infectious diseases and that he could not recognise instructions from the committee as he is not an official or subordinate of the committee, and that he did not discuss matters concerning his patients with any public or private body. The local authority are getting driven into a corner, and the sooner they yield to the inevitable the better. The action of the medical man in declining to give information is a logical sequence to the action of the local authority and is supported by the law and custom of the profession.

Health of Leith.

There were 40 deaths in Leith last week, making the mortality 29.70 per 1000, which is a considerable fall compared with the preceding weeks. Of the deaths, 2 were from scarlet fever, 1 from diphtheria, 5 from measles and 1 from whooping-cough.

Health of Aberdeen

The following is the return of zymotic diseases notified last week—Measles, 51, scarlet fever, 9, diphtheria, 2, whooping-cough, 3, puerperal fever, 1 total cases, 67. The epidemic of measles continues rapidly to decline, the number of cases for the last five weeks being 263, 184, 147, 106 and 51 respectively. In October, November and December, 1892, the total number of cases of measles was 4358, with 98 deaths in the first two months.

Aberdeen Hospital Sunday

On Jan. 1st the offertories of many churches were devoted to the maintenance of the Aberdeen Royal Infirmary. Despite the inclement weather a good sum was collected—£725, being £24 less than last year. It is hoped that the deficiency will yet be made good.

January 10th

IRELAND

(FROM OUR OWN CORRESPONDENTS.)

Poor law Relief

FROM a return recently issued by the Local Government Board it appears that the total number of persons who received relief in 1892 amounted to 427,934, showing a decrease of 9954 as compared with 1891. Of these 308,435 received in-door relief and 119,499 out-door relief. The total expenditure under all heads was £1,402,919, compared with £1,405,305 in the previous year.

Cholera Hospital, Cork

The Cork guardians have adopted the plans sent by the Local Government Board for a cholera hospital in the grounds of the workhouse. The hospital will accommodate thirty patients and will be commenced as soon as plans and specifications have been prepared.

Fees to Sanitary Officers

In December last the board of guardians of the Cork Union adopted a motion proposing to discontinue the practice of paying special fees to sanitary medical officers for attendance at petty sessions in respect of sanitary matters. This proposal was not only unjust but manifestly illegal, and the Local Government Board, on being appealed to, pointed out that Section 258 of the Public Health Act, 1878, enables a sanitary authority to arrange with a candidate for the office of medical officer before appointment that the duty of attendance and affording assistance at sanitary prosecutions shall be included in his salary, but that under other circumstances there is no power to enforce the arrangement contemplated in their notice of motion.

Rathdown Union.

The guardians of this union have elected Dr O'Flaherty

d Mr Newland superintendent medical officers under the olera regulations for this union.

Children's Hospital, Dublin.

A new juvenile comedy operetta will be performed at the eatre attached to the hospital in Harcourt-street in aid of the funds of the institution on the 21st inst. The play will be "Cinderella" and the chorus will include thirty children.

Sir Charles Cameron of Dublin has been elected President of the Public Analysts' Society of Great Britain and Ireland. Dr Thomas Myles has been appointed by the Treasury Medical Referee for Ireland in connexion with the Civil Service id superannuations.

The Belfast Health Society

The new Health Society was very successfully inaugurated on Jan 4th, when at a public meeting Dr Whittaker medical officer of health for the city of Belfast, delivered a lecture on "Sanitary Science." The President of Queen's College, Dr. Hamilton, who as President of the Health Society occupied the chair, pointed out that Mulhall's statistics for 1861-80 showed that Ireland was the healthiest country in Europe. In Hungary the death rate is 38 per 1000 per annum, in Austria 30 Italy and Spain 29 Belgium 22, England 21, Scotland 21, Denmark and Sweden 19, Ireland 17. But while this fact is true in regard to Ireland as a whole, unfortunately the large towns of Ireland, Belfast amongst the number, are among the unhealthiest in the United Kingdom. In Birmingham the death rate is 19 per 1000, in London 21, in Glasgow 25, in Liverpool and Cork 28, in Dublin 27 and in Belfast (the worst of all) 23. In his lecture Dr Whittaker showed the great prevalence of phthisis in Belfast (1017 died from this cause in 1891 and 1032 in 1892) and he said that the preventable causes of disease existing in this city were—1) the unhealthy occupation of many of the working classes, 2) the presence in the backyards of thousands of the houses of the working classes of middens of the worst possible type, (3) the bad sanitary conditions in far too many of the workers' houses, and (4) the imperfect drainage of the houses into the sewers. A very important statement was made by one of the speakers at the meeting—Mr Thomas Harrison, a member of the Public Health Committee of the Belfast Corporation. He said all the efforts of that Society would be of little avail unless they and the public could get the Infectious Diseases Notification Act introduced into Belfast at the very earliest opportunity. At present Dr Whittaker (the public officer of health) and his large and efficient staff know nothing of the march of disease through their town. They must not, Mr Harrison said, blame either the Public Health Committee or the Legislature, the Belfast Corporation refused to pass a resolution in favour of the adoption of the Act. Even so late as Monday, Jan. 2nd 1893, another attempt to get the Act introduced was unsuccessful. He called upon the Medical Society of Belfast and upon the newly organised and newly established Health Society to assist the Public Health Committee, even against the corporation itself, to get that Act introduced into Belfast. There is no doubt that this new society (the inception of which is entirely due to the ceaseless energies of the hon. secretary Dr H. O'Neill) will do an immense deal of good especially in educating the citizens as to the laws of health, and already by the attention it has drawn to the very high death rate of Belfast, it has accomplished no small end.

Jan. 10th.

PARIS

(FROM OUR OWN CORRESPONDENT.)

Revival of an Ancient Remedy for Phylloxera

On April 11th last M de Mély called the attention of the members of the Académie des Sciences to book vii., chap. viii. of Strabo's Geography, wherein mention is made of an insect or parasite—perhaps our own phylloxera—which already at that remote period, 60 B.C. attacked the vine. Roughly translated the passage runs as follows—"The Apollonates have in their territory a rock which vomits fire, from its base there escape springs of tepid water and asphalt, the result, apparently, of the combustion of the soil, which is bituminous as is proved by the presence on a hillock close by of an asphalt mine. In this mine the loss seems to be balanced by fresh deposits derived from the soil thrown in, which is converted, according to Posidonius,

into bitumen. The same author mentions another bituminous earth, ampelitis, which is extracted from a mine in the neighbourhood of Seleucia and which is employed as a preservative against the insect that attacks the vine. The mere rubbing of the vine with a mixture of the earth and oil suffices to kill the animal before it can ascend from the roots to the buds. Posidonius adds that when he was Prytanis of Rhodes there was found there a similar earth, which, however, required more oil than the above (ampelitis)." M. de Mély has since conducted experiments on a large scale in order to put Strabo's assertion to the proof. Six hundred vine stocks, planted on land impossible to sulphur, were treated with 100 kilogrammes of chopped rags saturated with ten kilogrammes of schist. M. de Mély has in addition treated some vines with bituminous earth sent him from Rhodes, the earth being placed in circular buckets around the vine stock. The result is said to be most gratifying, the vines subjected to the Strabonian treatment being remarkably vigorous and the yield of grapes greatly superior to that of neighbouring vines untreated thus. M. de Mély suggests that the method should be put into practice throughout all phylloxera infested districts, the moderate cost of the remedy bringing it within the reach of even the poorest wine-grower.

Remarkable Transposition of Organs

Some days ago there died in Paris, under what appeared to be suspicious circumstances a gentleman of independent means aged eighty-five. A necropsy was deemed necessary, and Dr Descouts the well known Morgue expert, was entrusted with the task. No abnormal cause of death was discovered, but Mohère's famous *Médecin malgré lui* could he have been present on the occasion, would have been gratified to find his peculiar topographical notions confirmed in a striking manner. The heart, liver and spleen were completely transposed, the first named organ being on the right side of the chest and so on. Commenting on this strange abnormality Dr Descouts remarks on its rarity. He further says that he would like to know how many errors of diagnosis have been committed by the different practitioners who were consulted by the defunct during his long life. Asked if it would not be as well to interrogate the deceased's ordinary medical attendant, Dr Descouts humorously replied that it was most unlikely that he had ever had one and that that was probably the reason he had lived so long! Dr Descouts has evidently studied Mohère to some purpose.

The new Medico legal Institute

Anyone who, like myself, has followed a series of summer lectures at the Morgue will not readily forget the suffering entailed on the students by the sweltering heat prevailing in the wretched little theatre in which post mortem examinations are performed by a volunteer from amongst the audience. The teaching is so excellent that both Professor Brouardel and his assistants and the Faculty students deserve to be provided at an early date with more appropriate premises. The construction of a new Medico-legal Institute has for some time past been on the tapis and it is now announced that the discussion of the project will be definitely undertaken by the Conseil Général du Département de la Seine in February next. Fortunately for the chances of the prompt realisation of the scheme Professor Brouardel possesses great influence, which he will doubtless employ in this direction.

January 11th.

BERLIN

(FROM OUR OWN CORRESPONDENT.)

The Emperor and Empress Frederick Children's Hospital

THE Emperor and Empress Frederick Children's Hospital in the Reinkendorfer Strasse here, of which the Empress Frederick is patroness, is an institution for the treatment of sick children, especially such as are suffering from infectious diseases. It was founded and is maintained mainly by beneficent donations. The hospital consists of four departments—one for non-infectious internal diseases another for surgical cases, a third for diphtheria and a fourth for scarlet fever. The doctors and attendants are as strictly isolated in the several departments as if they did not belong to a uniformly governed institution. Other departments for measles whooping cough and mixed forms of infectious diseases are projected. The institution was opened on Aug 1st, 1890 and then consisted only of the consulting and diphtheria departments. During the first year 494

children were treated in the hospital, including 242 suffering from diphtheria, 36 from scarlet fever and 216 from non-infectious diseases or injuries, and the total number of days spent by them in the hospital was 11,127. The number of children treated in the consulting department was 5674. Since then till the end of 1892 the corresponding numbers were 1752, 46,460 and 8000. The sum still wanted to complete the hospital is about 300,000 marks (£15,000).

Friedrich von Esmarch

Yesterday was the seventieth birthday of the famous surgeon Professor von Esmarch. He received numerous marks of sympathy and respect. Prince and Princess Henry of Prussia and all the leading people in society at Kiel, where he lives, were amongst his congratulators. Professor Petersen delivered a festal document in the name of his pupils and admirers. The city of Kiel sent a deputation with the burgomaster at its head. The congratulations of the University were conveyed by Professor Haeckel. The students' associations were represented by deputations. Many telegrams &c. arrived from abroad, especially from America.

Professor Eichstedt

The death of Professor Eichstedt, the oldest member of the medical faculty of the University of Greifswald in Pomerania, is announced from there. He was a many-sided medical writer. Some of the subjects on which he wrote were diarrhoea in children, procreation and the mechanism of labour, acarus scabiei, and pityriasis versicolor. He was born and educated at Greifswald, and spent most of his life there.

Dr Leon Hollstein

Privy Sanitary Counsellor Dr Leon Hollstein died two or three days ago aged eighty-one. He spent sixty years of his life in Berlin. He was the author of a "Manual of Anatomy" which was the first, or one of the first, German books of the kind which followed the English example of inserting illustrations in the text. It went through five editions, was translated into foreign languages and was very popular amongst medical students till about twenty years ago.

Cholera in Hamburg

About six cases of cholera occurred in Hamburg last week.

Professor Hitzig

Eduard Hitzig, Professor of the Science of the Treatment of the Insane at Halle, has received and declined a call to succeed Professor Theodor Meynert in Vienna. January 10th.

VIENNA

(FROM OUR OWN CORRESPONDENT.)

Cholera in Austria Hungary

No case of cholera has been reported from the Galician towns, but a new invasion of the epidemic is feared in the Bukovina on account of the rapid spread of the disease in the adjacent part of Russia. The traffic on the frontier is, therefore, kept under medical supervision. A case of cholera has occurred at Budapest to-day, but the number of the patients at the Cholera Hospital has been reduced to two.

The Intra-peritoneal Insufflation of Air in Tuberculous Peritonitis

The astonishing curative effect of simple laparotomy is well known from the publications of Professor Oheyne as also from those of Continental surgeons, and various hypotheses have been advanced to explain it. Now Professor Mosetig Moorhof, in a recent communication, is inclined to believe that the curative influence of laparotomy in tuberculous peritonitis is due, as was originally suggested by Caspersohn, to the irritation caused by the entrance of air into the peritoneal cavity. His attention was called to this fact in a case of tuberculous growths of the peritoneum in a woman aged forty-two, on whom laparotomy had been performed merely for the purpose of diagnosis, and in whom three weeks after the incision of the abdominal wall the growth was reduced from the size of a child's head to that of an apple without any further interference. In May, 1892, Professor Mosetig had the opportunity of trying a new method of treatment based on this experience. In a boy four years of age, with ascites hydrocele of the cord and tuberculous induration of the epididymis and of the vas efferens, the tuberculous testicle was removed, and by introducing a

drainage tube through the tunica vaginalis and the inguinal canal the ascites was drained off, 1700 cc. of liquid containing albumen being discharged. Then air, sterilised by passing it through a solution of warm carbolic acid and again through layers of cotton wool which dried it, was insufflated into the peritoneal cavity through the drainage tube. The ascites disappeared, the boy quickly recovered, and in October the abdomen was, on percussion, found to be normal when the patient was again seen by the surgeon. From these facts Professor Mosetig was induced to recommend paracentesis abdominis with subsequent insufflation of air in cases of tuberculous peritonitis associated with ascites, in place of the laparotomy heretofore performed in such cases.

The Value of Different Antiseptics in the Surgery of the Brain

By recent experiments of Professor Adamkiewicz it would appear that some of the antiseptics used in surgery should not be applied to wounds of the brain, as they are irritating to or even destructive of, the nervous tissues. Carbolic acid, for example, should not be used in stronger solutions than 0.5 per cent., while corrosive sublimate should be altogether avoided. Boric acid alone is freely applicable to the brain without evil consequences.

Forensic Medicine in Vienna

There were not less than 1108 post-mortem examinations made in Vienna at the Institute for Forensic Medicine in the course of last year, a number greatly in excess of the necropsies performed at other universities.

Vienna, Jan. 2nd.

Obituary.

ROWLAND SMITH M.R.C.S., L.S.A.

ONE of the rank and file of our profession passed away somewhat suddenly at Cobham, Surrey, on Monday, Jan. 2nd. Mr Smith belonged to the class of general practitioners, whose services to the sick and ailing of the community are for the most part confined to the sick. For between thirty and forty years he held offices at the above-mentioned town under the Poor law, his ministrations in the course of his official duties being concurrently sought also by his neighbours in the easier walks of life. The severe weather with which we have been visited of late, together with the exposure necessarily attendant on his professional duties, seems to have brought on an attack of pneumonia to which he speedily succumbed. The esteem in which he was held by his neighbours as well as by his patients was shown by the deceased being honoured by a public funeral. He leaves six sons and two daughters to mourn their loss.

JAMES ALLEN BRATTON, M.A. CANTAB., L.R.C.P. LOND., M.R.C.S. ENG.

MR. J. A. BRATTON died at Ewell, near Epsom, on Monday the 9th inst., of enteric fever, after an illness of five weeks' duration. During the night of Sunday symptoms of pneumonia involving the whole of the right lung supervened, and he rapidly sank. He was the son of the late Mr James Bratton, F.R.C.S., a well-known surgeon, who practised for nearly fifty years in Shrewsbury. Mr J. A. Bratton was educated at Caius College, Cambridge, and at King's College, London, and at first practised in Shrewsbury, where he became assistant surgeon to the Shropshire Eye, Ear and Throat Hospital and honorary secretary and treasurer to the local branch of the British Medical Association. In 1890, wishing to be nearer London, he joined Dr Barnes of Ewell in partnership, and on the death of his partner last year he took over the whole of the practice. He was a thorough, able practitioner, most courteous and agreeable in manner, kind and genial in disposition, and he readily won and retained the confidence and esteem of his patients. He died at an early age of thirty-two and his loss will be severely felt by a large circle of patients and friends. He leaves a widow and one child to mourn his death. His body was cremated at the Woking Crematorium on Thursday, the 12th inst., according to his expressed desire.

DR RAFFAELE D'ARPE

THE picturesque and historically most interesting Apulian town of Lecce has just lost its noblest citizen, the nonagenarian Dr Raffaele D'Arpe. Seventy years ago he was

of the most promising graduates of the Neapolitan school, he had barely entered in practice when the patriotic ferment in the peninsula absorbed his time and energies. Uprisings of 1821 and 1831 found him actively aiding the national cause and, after their subsidence, utilising much of his leisure in preparing for the next and, temporarily, more active one in 1848. By this time long years of steady practice and study had made him one of the most successful consultants in Italia Meridionale, in which capacity he was especially useful to the patriots confined after that memorable uprising in the prisons of Lecce. Among these were some of the most noted martyrs of the South—the Duca di Stromeo, the Senator Schiavoni, the Signori Stancchia, Sansovito, Bortone and others—all of whom owed to his courageous and kindly visits not only the treatment which prolonged their lives but the mental satisfaction of knowing how their brethren were faring at other centres of the national movement. At last the Neapolitan Government ventured to put him also under arrest and he served some time in the dungeons of Lecce till the temporary return of peace set him at liberty. Once more the agitation against the Bourbon in 1859 found him on the nationalist side. With the absorption of the Two Sicilies into the Italian kingdom in 1860 Dr D'Arpe became Mayor (*Sindaco*) of Lecce and held the post with much acceptance for many years. Though in exceptionally good circumstances, he laboured professionally to the last, principally among the poor. By these, and indeed by all the inhabitants of the town and province, his death is mourned as a public calamity. On the day of his funeral—a most touchingly impressive one—the schools, the shops, the places of business were closed in order that the citizens of every class and condition might pay their last tribute of respect to one who had served them so unweariedly and so well.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

A QUARTERLY MEETING of the Council of the Royal College of Surgeons was held on the 12th of January, the President, Mr Thomas Bryant in the chair.

With the exception of a resolution relating to a candidate for the dental diploma the minutes of the Ordinary Council on the 8th ult. were read and confirmed.

The Secretary reported the death, on the 18th ult., of Mr Richard Owen, K.C.B., F.R.S., Senior Fellow of the College and late Conservator of the Museum of the College, and the Council expressed their deep regret at his death and their sincere sympathy with the members of his family.

It was agreed that, as recommended by the Museum Committee, Mr E. Burgess, the museum artist, should be employed for a further period of six months, that Dr T Colcott Fox and Dr H. Radcliffe Crocker should be requested to rearrange the models and drawings in possession of the College and to prepare a new catalogue, and that, as recommended by the Museum Committee, the sum of £15 should be expended in the purchase of 108 Brazilian birds preserved in spirit. A report, dated Dec. 19th, 1892, from the Committee of Management was approved, adopted and entered on the minutes, a report, dated Dec. 9th 1892, from the Laboratories Committee, was also approved, adopted and entered on the minutes. Dr German Sims Woodhead was re-elected Director of the Laboratories for the ensuing year.

It was agreed that as recommended by the President and Vice Presidents, the Royal Horticultural Society should be informed, in reply to their letter of the 30th ult., that the President and Vice-Presidents will be prepared to sign, on behalf of the Council, any memorial that may be presented by them to the London County Council asking them to undertake an inquiry into the origin and composition of London fogs and the possibility of a remedy for the same.

The Secretary reported the receipt of a dissertation on "Diseases of the Ovaries and the Uterine Appendages their Pathology, Diagnosis and Treatment," the subject of the Jacksonian Prize for the past year.

The motion brought forward by Mr Smith was agreed to, it was as follows—

"That in order to ascertain the views of the Fellows and Members of the College on the position which in their opinion this College should hold in the proposed Teaching University for London separate meetings of Fellows and Members be convened at an early date after the report of the Gresham Royal Commission has been made public."

Mr Tweedy obtained the permission of the Council to withdraw the motion, of which he had given notice on the 8th ult.

A communication was received from Sir Francis Knollys announcing the intention of his Royal Highness the Prince of Wales to honour the College with his presence at the Hunterian Oration on Feb 14th next. The oration will be delivered in the theatre of the College by Mr Thomas Bryant.

MEDICAL TRIAL

MEDICAL PRACTITIONERS' ACCOUNTS

A CASE was recently tried at the Greenwich County Court, before Judge Bristowe, Q.C., and a jury, in which the plaintiff, Dr Groome of New Cross, sued the son of a patient, formerly living at Streatham, for the recovery of £50 for medical attendance on the deceased. From the evidence it appeared that in November, 1890, the defendant's sister called at the plaintiff's surgery and produced a letter from the defendant to her by which she was asked to procure for her father such medical attendance as he required. Upon the faith of this letter the plaintiff attended the patient for a period of thirteen months, when he died. Shortly after the death the plaintiff sent in his account, made out to the executors of the deceased, which account was sent by the defendant's sister to him, and some correspondence took place between the plaintiff and the defendant with regard to the payment of the claim. The defendant did not deny his liability, but, on the other hand, there was no express admission of it. Whilst this controversy was taking place the defendant's sister died, and thus a further complication was introduced into the matter. At last the plaintiff, being unable to obtain payment, commenced this action. The vital point in the case was to establish the defendant's liability, and the proof of this was dependent on a letter of the deceased to the sister, which letter however, was not forthcoming. After evidence to sustain the points brought forward on either side had been given the judge, in summing up, commented on the negligence displayed by medical practitioners generally in regard to the delivery of their accounts for professional attendance, and the jury found a verdict for the plaintiff for the full amount, with costs.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen passed the Second Examination of the Board in Anatomy and Physiology at a meeting of the Examiners on the 9th inst.—

George A. Copland, William Butement and William L. Christie students of Otago University, New Zealand, and London Hospital. William H. G. Aspland, London Hospital. Harry G. Cribb and Arthur S. Lawrence of Middlesex Hospital. John W. Maskell, of University College Liverpool. Ernest J. Beards, of Mason's College, Birmingham. Thomas E. Price of Mason's College, Birmingham and Mr Cooke's School of Anatomy and Physiology. Joseph Gallizia, of the University of Malta. Naoroji Baramji Darabseth, of Grant Medical College, Bombay and Aberdeen University. John M. K. Grover, of Owens College, Manchester. James H. Ferguson, of Ledwith Medical School and the Catholic University, Dublin. Thomas G. D. Cooper of Queen's College, Cork, and Wilfred F. Evans, of St. Bartholomew's Hospital. Anatomy only—Herbert Hallam, Ernest D. Watren, and Cyril H. Flory of the Medical School, Sheffield. Stanley W. Williams and Arthur T. Jones of University College Liverpool. Charles H. Smart, of Mason's College Birmingham. Thomas Jones and Edward Melden, of Owens College, Manchester. Alfred E. Sears, of London Hospital and Henry A. Burridge of King's College. Physiology only—Arthur E. Little and Arthur T. Latchmore, of Yorkshire College, Leeds. Ernest H. Millon of St. Mary's Hospital. Richard E. W. Jennings, of the Medical School, Bristol and Mr Cooke's School of Anatomy and Physiology. Thomas T. Harmit, of Middlesex Hospital. Edwin Follitt, of St. Bartholomew's Hospital. William Chapman and William H. Tomlinson, of Owens College, Manchester. Arthur Cant and William Sutcliffe of Mason's College Birmingham.—4 candidates were referred in both subjects 6 in Anatomy only and 12 in Physiology only.

Passed on the 10th inst.—

Anatomy and Physiology—Arthur Marriott, Thomas H. C. Stevenson and John H. Cook, of University College. George H. Hunt, of St. Mary's Hospital. Thomas H. Boyd, of Melbourne University. Frederick D. S. Fayer of Cambridge University and Charing Cross Hospital. Arthur H. H. Huckle. Walter C. Pakes of Guy's Hospital. Charles D. Statham, of Grant Medical College, Bombay, and Guy's Hospital. Ernest W. H. Groves and Frank A. Smith, of St. Bartholomew's Hospital. William H. Kendrick, of London

Hospital, Arthur J Eastcott and Edward L. Hunt of St George's Hospital, Herbert C Crouch of St. Thomas's Hospital, Reginald Moreton, of St. Thomas's Hospital and Mr Cooke's School of Anatomy and Physiology Usher W. N. Miles, of King's College, Hugh P. Noble, of Middlesex Hospital
Anatomy only—John P. Prell, of London Hospital
Physiology only—Denyer W. F. Latham and Charles F. Le Sage, of London Hospital Herbert J. Richard and Bernard W. Holmes of St. Bartholomew's Hospital Oguntola Sapara of St. Thomas's Hospital, William D. Watson and Edgar T. Inkson of University College and Christopher A. A. Coulthard of St. George's Hospital.—12. Candidates were referred in both subjects, 5 in Anatomy only and 4 in Physiology

Passed on the 11th inst. —

Anatomy and Physiology—Hubert Rawsthorne of University College, Reginald A. L. Hill and Percy S. Crookes, of St. Thomas's Hospital, Arthur Chopping of St. Thomas's Hospital and Mr Cooke's School of Anatomy and Physiology Julius Moore and Lionel A. Paul, of Guy's Hospital Leonard A. Grimes, of St. George's Hospital and Mr Cooke's School of Anatomy and Physiology Spencer Wicks of Cambridge University and London Hospital, Frederick L. Dodd, of Middlesex Hospital James M. G. Swainson of Westminster Hospital, John Gundlach, of St. Bartholomew's Hospital.

Anatomy only—Frank V. Bice, William A. Bramsdon, Herbert G. Berry and Thomas Martin of St. Bartholomew's Hospital, Arthur W. Robertson, of St. Bartholomew's Hospital, and Mr Cooke's School of Anatomy and Physiology James G. Heath, of St. Mary's Hospital Frederick R. Baker, of London Hospital, and Mr Cooke's School of Anatomy and Physiology, Ralph E. De Martini, of King's College.

Physiology only—Harry R. Emms Arthur Brebner and Frederick H. E. Anning of University College, Lambert C. Dillon, of King's College Michael Joseph Evan and William H. Farmer, of St. Bartholomew's Hospital, William K. Hay Coghlan of St. Mary's Hospital and Harold E. Dixon of London Hospital.—12 candidates were referred in both subjects, 5 in Anatomy only and 8 in Physiology only

ROYAL COLLEGE OF SURGEONS OF ENGLAND—

The following gentleman, having previously passed the necessary examinations and having conformed to the by laws and regulations, was, at the quarterly meeting of the Council, admitted a Member of the College —

Samuel Whitell Thompson, L.S.A. Lond., Charing-cross Hospital.

SOCIETY OF APOTHECARIES OF LONDON—The following candidates have passed the Primary Examination in the subjects indicated —

Chemistry—C. Adams, M. K. H. Holt, H. M. Maitland W. H. Burnhill, and M. Sharp, Royal Free Hospital T. H. P. Peers, Charing-cross Hospital

Materia Medica, Botany and Pharmacy—W. MacLellan Edinburgh, J. Thornton, London Hospital.

Anatomy and Physiology—F. H. Blatchford Cambridge and St. Mary's Hospital H. G. Gibb Middlesex Hospital H. C. F. Dalton, Charing-cross Hospital L. C. Dillon, King's College A. M. Dow Yorkshire College, Leeds A. S. Lawrence, Middlesex Hospital C. R. Maitland, Cambridge University, C. H. R. Pentreath Cambridge and St. Mary's Hospital T. E. Price, Birmingham and Mr Cooke's School of Anatomy, W. S. Robinson, Birmingham O. C. Sibley Middlesex Hospital

Anatomy—W. Alder Guy's Hospital, L. M. Blake, Royal Free Hospital D. L. E. Boctor, St. Bartholomew's Hospital, G. H. Gill Owens College S. R. Hallam St. Thomas's Hospital H. G. Jones and E. S. Johnson St. Mary's Hospital E. S. I. Lovell Charing-cross Hospital A. C. M. Levan King's College E. D. Warren University College and Sheffield

Physiology—E. H. Betts St. Bartholomew's Hospital, A. T. Latchmore, Yorkshire College Leeds W. A. Montgomery, St. Thomas's Hospital, A. P. Square Middlesex Hospital, M. A. F. Vakil, Royal Free Hospital and Bombay

ISOLATION OF INFECTIOUS CASES AT CHEADLE—

The Cheadle Local Board have obtained the consent of the Stockport Corporation to send infectious patients to the Stockport Borough Hospital if accommodation can be found for them at that institution. The nearest place of isolation, independent of the Stockport Borough Hospital, is Hyde, which place, it is contended, is too far distant from Cheadle. Efforts have been made to erect an infectious disease hospital at Cheadle, but to that proposal the majority of the Board and of the ratepayers are opposed.

HARVEIAN SOCIETY—The annual meeting and conversazione will be held at the rooms of this Society in Tichborne street, London, on Thursday, Jan. 19th, at 8 P.M., when an address will be given by the retiring President, Dr. Cheadle. Amongst the names of those gentlemen who have promised to exhibit pictures are Sir Henry Thompson, Mr. (Propert), Dr. Buzard and Mr. Evershed. The following officers have been nominated by the Council for 1893—President Mr. Malcolm Morris Vice-Presidents Mr. Drew Dr. Goodhart, Mr. Lockwood and Dr. Maguire. Treasurer Mr. Cripps Lawrence. Hon. Secs. Mr. Roughton and Dr. Boxall Council Dr. Cheadle (retiring President), Dr. William Hill (retiring Secretary), Dr. Coates, Mr. Dodsworth, Dr. Evans, Dr. Gomer Davies, Mr. Rayley Owen, Mr. D'Arcy Power, Mr. Morton Smale, Sir William Roberts, Dr. Scanes Spicer and Dr. A. K. Willis

MEDICAL FEES AND STREET ACCIDENTS—In Glasgow the Police Commission has fixed the minimum fee for medical attendance on persons suffering from street accidents at 2s. 6d. during the day and 5s. during the night, the maximum payment to remain as heretofore.

FOOTBALL CASUALTIES—On the 2nd inst. during a match at Lochmaben, a player fractured his right leg.—On the following day while playing a match at Gleadless, a young man dislocated his right clavicle.

PRESENTATION—Mr. F. H. Lewis, M.R.C.S. L.S.A., of Auckland, New Zealand, has been presented by the Central Nursing Class of the St. John Ambulance Association with a silver cigarette case and match box in recognition of his services in training the class.

TYPHUS FEVER IN NEW YORK—Stringent measures are being adopted to curb the epidemic now prevailing in New York. Cases to the number of eighty-one have been reported since Dec. 1st, and most of them have arisen in densely populated and grossly insanitary portions of the city. The closing of some of the lodging houses is in contemplation.

STRANGE CASE OF SUICIDE—On Jan. 4th an inquest was held at Birmingham on the body of an elderly man named William Bolas. Deceased had lately attempted to commit suicide by drinking sulphate of zinc. Evidence given before the coroner showed that the unfortunate man had swallowed two pieces of cane, the one fifteen inches in length and the other sixteen inches. Death resulted from injuries to the windpipe and the jury returned a verdict of "Suicide during temporary insanity."

THE SOCIETY FOR THE STUDY OF INEBRIETY—A meeting of the friends of this Society, which assembled at the Marlborough Rooms on the 10th inst., was distinguished by an event of unwonted interest. This was the celebration of the hundredth anniversary of one of its vice presidents, Dr. Severn Wielobyski. Dr. Norman Kerr, surrounded on the platform by many gentlemen identified with the work of restraining intemperance, gave an interesting sketch of the career of the veteran reformer and, on behalf of the Society, presented him with an illuminated address appropriate to the occasion. Other addresses from kindred societies as well as from private persons interested in the work of temperance reform were also presented. Dr. Wielobyski, in expressing his thanks for the addresses and congratulations, remarked that in order to live a hundred years it would be necessary to abstain from alcoholic drinks and the use of tobacco and to forego over-indulgence in animal food.

PROVISION AGAINST FIRE IN HOSPITAL BUILDINGS. Berrywood County Asylum, Northampton, is, in addition to its other fire protective arrangements, to be supplied with a powerful steam fire engine of special design. Messrs. Shand, Mason and Co. of London are the makers of the engine, which is to have a pumping capacity of 450 gallons per minute and will throw six powerful jets of water over the asylum buildings if occasion should arise. A novel feature of the engine is that it can be converted into an ordinary motive power engine at a few minutes' notice.—The Governors of Guy's Hospital recently had large additions made to the fire main and hydrant system which has for many years protected the premises against fire. Messrs. Merryweather and Sons carried out the work and recently gave one of their periodical drills to thirty-two of the night staff and six workmen, with very good results.

THE RECENT INQUIRY AT THE BIRMINGHAM WORKHOUSE INFIRMARY—The clerk to the Birmingham Workhouse Infirmary has received from the Local Government Board their report with regard to the inquiry recently conducted by their inspectors, Mr. Murray Browne and Dr. Downes, into the circumstances connected with the death of Edwin Hawkesford at the Winsor Green Asylum in July last, also in respect of the case of Joseph Aston, a certified lunatic, whilst an inmate of the workhouse infirmary. The report gives in detail the conclusions of their inspectors regarding the circumstances attending the former case, and on the whole, whilst admitting the existence of some error of judgment in dealing with the case, agree with the report of their inspectors that no serious blame is to be attached to the officials concerned. The second case was that of an old man who suffered from a fractured sternum. Here the accident seemed to have arisen from an altercation between the deceased and another patient.

ODONTOLOGICAL SOCIETY—At the annual general meeting of this Society, held on Jan. 9th, the following officers for the present year were duly elected.—President Mr W Bowman MacLeod. Vice-Presidents Messrs T H G Larding, R H Woodhouse, Morton Smale, R T Stack, F H Talkwill, W E Harding. Treasurer Mr S J Hutchinson. Librarian Mr Ashley Gibbings. Curator Mr Storer. Editor of Transactions Mr E Lloyd Williams. Honorary Secretaries Messrs W A Maggs (Council), Cornelius Robbins (Society), James F Colyer (for Foreign Correspondence). Councillors Messrs F J Bennett, E G Betts, B J Bonnell, J Ackery, A Underwood, Harry Rose, J D Davis, Chas Truman, W R Humby, T S Carter, V S Woodburn, W H Williamson, H C Quinby, D W Moore, Wilson Hogue, G G Campion, J McKno Ackland, H. McCall.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions and others possessing information suitable for this column, are invited to forward it to THE LANCET Office directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.

BEST PALEMON, M.B. Lond. M.R.C.S., has been reappointed Medical Officer for the Grimsby Sanitary District of the Louth Union.

BRANDT J. EGBERTS, B.A. Cantab., M.B. C.M. Edin. has been appointed House Physician to the Hertford British Hospital, Paris.

BROWN HAYDN L.R.C.P. L.R.C.S. Edin., L.F.P.S. Glasg. has been appointed Surgeon to the Hospital of St. Peter Port, Guernsey.

COLLINS, HENRY BEALE, D.P.H. has been appointed Medical Officer of Health for Kingston-on-Thames Urban District.

DAVIES, G. A. L.R.C.P. Lond. M.R.C.S., of Newport (Mon) has been appointed a J.P. for that Borough.

DAY, F. W. LANGSTON M.R.C.S. L.R.C.P. Lond., has been appointed Medical Officer of Health for the Baldock District, Herts.

DUKES, Mr ARCHIBALD has been appointed House Surgeon to the Croydon General Hospital, vice De Mesquita, resigned.

HITCHCOCK, JAS M.B. C.M. has been appointed Medical Officer pro tem to the Gamrie Parochial Board.

LEA, J. M.B., C.M. Cantab., has been appointed House Surgeon to the Stockport Infirmary.

MAGUIRE, R. M.D. F.R.C.P. Lond. has been appointed Physician on the Honorary Staff of the Royal Society of Musicians.

MCNELL, HARDINGE C.C., L.R.C.S. L.R.C.P. L.F.P. & S.G. Edin. has been appointed Honorary Surgeon to the Cornelia Hospital, Poole.

MILLER, W. R. M.D. B.Ch. Dub., has been appointed Surgeon to the Royal Cornwall Infirmary.

ODELL, ROBT L.R.C.P. Lond., M.R.C.S., has been reappointed Medical Officer for the Second and Third Sanitary Districts of the Hertford Union.

OWEN, E. M.B. Lond., F.R.C.S., has been appointed Surgeon on the Honorary Staff of the Royal Society of Musicians.

RILEY, J. W. L.R.C.P. L.L. Edin. M.R.C.S. has been appointed Medical Officer for the Pontisbury Sanitary District of the Atcham Union.

STEPHENS CHAS L.R.C.S. Edin. has been appointed Medical Officer for the Fourth Sanitary District of the Brackley Union vice Williams, resigned.

TOSSWILL, T. CECIL, M.B., C.M. Edin., has been appointed House Surgeon to the Stockport Infirmary, vice Bellamy, resigned.

VARDON, A. D. L.R.C.P. L.R.C.S. Edin. L.F.P.S. Glasg., has been appointed Medical Officer for the Eastern Division of the Parish of Gamrie.

WOOD W. D. L.R.C.P. L.R.C.S. Edin., has been reappointed Medical Officer of Health for Caversham and the Combined Sanitary Rural and Urban Districts of the Bleasley Union.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRMINGHAM AND MIDLANDS HOSPITAL FOR WOMEN—Vacancy in the Honorary Acting Out-patient Staff.

CORPORATION OF NORWICH—Medical Officer of Health. Salary £400 per annum. Prestwich.—Pathologist. Salary £200 per annum, with furnished apartments, board, attendance and washing.

DERBYSHIRE ROYAL INFIRMARY—Resident Assistant House Surgeon for six months. Salary £10. Apartments, board and washing provided.

EARLSWOOD ASYLUM FOR IDIOTS Redhill, Surrey.—Qualified Practitioner. Salary £400, with furnished apartments in the building together with coal and gas.

EAST LONDON HOSPITAL FOR CHILDREN Glamis-road, Shadwell, E.—House Surgeon. Board and lodging provided.

GENERAL HOSPITAL, Birmingham—Two Assistant House Surgeons, for six months. Residence board and washing provided.

GRANT NORTHERN CENTRAL HOSPITAL, Holloway-road, N.—House Surgeon. Salary £60 per annum with board and lodging in the hospital.

GUEST HOSPITAL, Dudley—Resident Medical Officer. Salary £100 per annum, with board, residence, attendance and washing.

HOSPITAL FOR WOMEN (THE LONDON SCHOOL OF GYNECOLOGY), Soho-square, W.—Clinical Assistants.

MORPETH DISPENSARY—House Surgeon unmarried. Salary £120 per annum, with furnished apartments coal and gas.

ROCHDALE INFIRMARY AND DISPENSARY—Resident Medical Officer (unmarried). Salary £80 per annum with board and washing.

ROYAL PORTSMOUTH PORTSEA AND GOSPORT HOSPITAL, Portsea—Assistant House Surgeon for six months. Board, residence and washing and an honorarium of £15 15s at expiration of term of office.

ROYAL SOUTH LONDON DISPENSARY St. George's-cross S.E.—Honorary Surgeon.

ROYAL SOUTH HANTS INFIRMARY—Assistant House Surgeon. Board and rooms provided.

TAUNTON AND SOMERSET HOSPITAL, Taunton—Assistant House Surgeon, for six months. Board, washing and lodging in the Hospital provided.

UNIVERSITY COLLEGE OF SOUTH WALES AND MONMOUTHSHIRE, Cardiff—Professor of Anatomy. Stipend £350.

UNIVERSITY COLLEGE OF SOUTH WALES AND MONMOUTHSHIRE, Cardiff—Professor of Physiology. Stipend £350.

VICTORIA HOSPITAL, Folkestone—House Surgeon. Salary £80 the first year with an increase of £10 each year for the two following years together with board and residence.

WEST HERTS INFIRMARY Hemel Hempstead—House Surgeon and Dispenser who shall also be Assistant Secretary, for two years. Salary £100 per annum, with board, furnished rooms free light, attendance and washing.

Births, Marriages and Deaths.

BIRTHS.

BUTLIN—On Jan. 7th, at Harley street, W., the wife of Henry T. Butlin, F.R.C.S., of a son.

CARTER—On Jan. 1st, the wife of Dr H. B. Carter, at Moreton House, Lewisham High road, Brockley S.E. of a daughter.

CLENOW—On Jan. 4th, at Comeragh road, West Kensington, W., the wife of Arthur H. Weiss CLENOW M.D. of a daughter.

ELLISON—On Jan. 6th the wife of Ernest H. Ellison, M.A. M.R.C.S., L.R.C.P., of Castleton, Sheffield of a son.

GRIFFITHS—On Nov. 27th, 1892, at Blayney New South Wales the wife of Ernest E. Griffiths, Government Medical Officer of a son.

SHAW—On Jan. 5th, at St. Thomas's street, S.E. the wife of Lauriston E. Shaw M.D. F.R.C.P. of a son.

WATSON—On the 9th inst. at Hendre Overton park, Cheltenham, the wife of Deputy Surgeon General George Alder Watson Bengal Army (Retired) of a son.

MARRIAGES.

DALZIEL—BELL—On Dec. 31st, 1892, at St. Andrew's Chesterton, Cambridge Anthony Dalziel M.R.C.S. L.R.C.P. second son of the late Thomas Henry Dalziel, J.P. of Clifton Hall, Workington to Flora eldest daughter of the late Edward Bell, of the Manor House Chesterton.

OGILVIE—HOUSTON—On Jan. 5th, at George-square Edinburgh, Dr George Ogilvie, London, to Helen Hay daughter of Deputy Surgeon General John Houston, Madras Army (retired).

RICKETTS—GUILDING—On Jan. 3rd, at St. Laurence's Reading Surgeon Captain W. S. P. Ricketts, of the Indian Medical Service (Bombay), to Agnes Hilda, only daughter of the Rev J. M. Guilding vicar of St. Laurence's Reading.

WEBBER—MEW—On Jan. 4th, at St. Stephen's South Dulwich Henry Wollington Webber M.D. eldest son of John Webber M.R.C.S. of Mannamead, Plymouth, to Ada Marian third surviving daughter of Capt A. P. Mew, late of H.M. Bengal Army.

DEATHS.

BRATTON—On Jan. 9th at Hill House Ewell, James Allen Bratton, M.R.C.S.E. L.R.C.P. Lond. M.A. Cantab. aged 37.

BRENNAN—On Jan. 4th, at Ballycrehane Tipperary Henry Arthur Brennan Surgeon.

BURROUGHS—On Dec. 23rd, 1892, at sea on his return from New Zealand Thomas John Burroughs M.D., of Crondall, Hants aged 55.

CRANE—On Jan. 7th Charles Robinson Crane, M.R.C.S., of Cairn Ryan Lodge Preston Brighton aged 82.

CURTIS—On Jan. 8th at Staines, Frederick Curtis, M.R.C.S. in his 94th year (formerly House Surgeon at St. Bartholomew's Hospital).

HARLE—On Jan. 8th, Ezra Harle M.R.C.S.E. and L.R.C.P. Edin. of Earlswood Surrey.

HUTCHESON—On Jan. 2nd, at Aberdare J. D. Hutcheson, M.B. Glasg., L.R.C.S. Edin.

KERR—On Jan. 3rd, at Worcester crescent Clifton Benjamin Cowan Kerr, M.D. Brigade-Surgeon, Army Medical Staff retired.

LAWSON—On Jan. 5th, at Timaru, New Zealand, Bernard Sloane Lawson, M.R.C.S. L.R.C.P. aged 29.

LIDDON—On Jan. 8th at Church square Taunton, William Liddon M.B. F.R.C.S. aged 57.

LITTLE—On Jan. 5th, at 106, London street, Reading, Thomas Selby Little Surgeon.

SHAPLEY—On the 5th inst. at Earlswood Leamington Spa Harry Thomas Shapley M.B. M.R.C.S., in his 41st year. Deeply regretted by his sorrowing wife and children.

SMITH—On Jan. 2nd, at his residence Cobham, Surrey Rowland Smith, M.R.C.S., L.S.A., aged 62 years.

IN MEMORIAM.

STRICKLAND—On Jan. 12th, 1892, at New Bethesda, Cape Colony, Arthur W. Strickland, M.R.C.S. Eng., L.R.C.P. Edin. L.S.A., born Jan. 15th, 1852, at Kensington London, dearly beloved husband of Frances Strickland. "Not dead, but asleep."

H.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages and Deaths.

METEOROLOGICAL READINGS

(Taken daily at 8.30 a.m. by Steward's Instruments)

THE LANCET Office, Jan 12th, 1893

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radiation in Vacuum.	Maximum Temp. Shade.	Min. Temp.	Rain fall.	Remarks at 8.30 a.m.
Jan. 6	30.24	E.	32		38	84	20		Overcast
" 7	29.89	E.	31		--	86	29	.04	Overcast
" 8	29.77	E.	35	34		38	30		Raining
" 9	29.73	N.E.	38	37		40	35		Overcast
" 10	29.88	N.E.	37	36	58	42	35	.16	Overcast
" 11	30.30	N.E.	35	33	44	59	32		Cloudy
" 12	30.19	N.E.	37	36		58	34	.03	Overcast

Medical Diary for the ensuing Week.

Monday, January 16.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M., Fridays and Saturdays, at the same hour.

ST BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M., and on Tuesday, Wednesday, Friday, and Saturday at the same hour.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, daily at 10 A.M.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.

CHELSEA HOSPITAL FOR WOMEN.—Operations 2 P.M., Thursday, 2.

HOSPITAL FOR WOMEN, SOHO SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.

METROPOLITAN FREE HOSPITAL.—Operations 2 P.M.

ROYAL ORTHOPEDIC HOSPITAL.—Operations 2 P.M.

CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.

UNIVERSITY COLLEGE HOSPITAL.—Ear and Throat Department 9 A.M., Thursday, 9 A.M. Eye Department, 2 P.M.

LONDON POST-GRADUATE COURSE.—Royal London Ophthalmic Hospital 1 P.M., Mr R. Marcus Gunn External Examination of the Eye—101, Gt. Russell st. 8 P.M., Dr Galloway Certain Points bearing on Malignant Growths.—Parkes Museum (Margaret-st., W.) 3.30 P.M., Dr Louis C. Parkes Water Supply.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn road).—Mr Lennox Browne Polypus of the Nose.

MEDICAL SOCIETY OF LONDON.—8.30 P.M. Mr C. B. Keetley On the Prevention of Shortening after Fractures.—Mr J. D. Malcolm Physiology of Death after Traumatic Fever: a Study in Abdominal Surgery.

Tuesday, January 17.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at the same hour Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.

ST THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M., Friday, 2 P.M.

ST MARK'S HOSPITAL.—Operations, 2 P.M.

CANCER HOSPITAL, BROMPTON.—Operations 2 P.M., Saturday, 2 P.M.

WESTMINSTER HOSPITAL.—Operations 2 P.M.

WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Skin Department 1.45, Saturday, 9.15

ST MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations Monday, 2.30 P.M. Skin Department, Monday and Thursday 9.30 A.M. Throat Department, Tuesdays and Fridays 1.30 P.M. Electrotherapeutics, same day, 2 P.M.

LONDON POST-GRADUATE COURSE.—Hospital for Skin Diseases Blackfriars 4 P.M., Mr Jonathan Hutchinson Acne and Allied Diseases. Bethlehem Hospital 2 P.M., Dr Percy Smith Hypochondriasis.—101, Gt. Russell street 8 P.M., Dr Amand Routh Version.

PATHOLOGICAL SOCIETY OF LONDON.—8.30 P.M. Dr N. Dalton Multiple Papillomata of the Colon and Rectum.—Mr J. Jackson Clarke Cancers of the various Organs and Non-cancerous Cysts of the Breast due to Pterospiræ.—Mr G. H. Makins Blood Tumour in a case of Hemophilia.—Dr S. W. Wheaton Preparations from the Organs in a case of West African "Blackwater Fever"—Dr G. N. Pitt (1) Thrombosis of Pulmonary Artery without Infarction. (2) Arterio-venous Aneurysm connected with Iliac vessels at their Origin. Card Specimens.—Dr F. O. Turner Sarcoma of both Ovaries and of the Peritoneum in a Child.—Mr G. H. Makins Unusual Form of Meckel's Diverticulum.

Wednesday, January 18.

NATIONAL ORTHOPEDIC HOSPITAL.—Operations, 10 A.M.

MIDDLESEX HOSPITAL.—Operations, 1.30 P.M., Saturdays, 2 P.M. Obstetrical Operations Thursdays 2 P.M.

CHARING-CROSS HOSPITAL.—Operations 3 P.M., and on Thursday and Friday at the same hour.

ST THOMAS'S HOSPITAL.—Operations 1.30 P.M., Saturday, same hour

LONDON HOSPITAL.—Operations, 2 P.M., Thursday and Saturday, same hour.

ST PETER'S HOSPITAL, COVENT-GARDEN.—Operations 2 P.M.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.

GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 1.30 P.M. Dental Department, 9.30 A.M. Eye Department, 2 P.M.

ROYAL FREE HOSPITAL.—Operations 2 P.M. and on Saturday

CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations 9.30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.

LONDON POST-GRADUATE COURSE.—Hospital for Consumption Brompton 4 P.M., Dr R. Douglas Powell The Principles of Treatment in Phthisis.—Royal London Ophthalmic Hospital 8 P.M., Mr A. Quarry Silcock Choroidal Dislocation, with illustrative cases.—Central London Sick Asylum (Cleveland st., W.) 8 P.M. Sir Joseph Lister Antiseptic Dressings (this demonstration only will be given in the Theatre of King's College Hospital).

EPIDEMIOLOGICAL SOCIETY OF LONDON.—8.30 P.M. Dr Kenneth McLeod A Remarkable Epidemic of Dropsy.

ROYAL MICROSCOPICAL SOCIETY.—8 P.M. Annual Meeting Presidential Address by Dr R. Brathwaite.

Thursday, January 19.

ST GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday 1.30 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations 2 P.M. Ear and Throat Department, 9 A.M. Eye Department, 2 P.M.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn road).—Dr Dundas Grant The Morbid Conditions of the Membrana Tympani.

LONDON POST-GRADUATE COURSE.—Hospital for Sick Children, Great Ormond street 4 P.M., Dr Sturges Illustrations of Chorea, in Nervous and Cardiac Signs.—National Hospital for the Paralytic and Epileptic 2 P.M., Dr Tooth Anatomy of the Spinal Cord.—London Throat Hospital (St. Portland st.) 8 P.M., Mr W. R. H. Stewart Examination of the Ear.

LONDON SKIN HOSPITAL (40, Fitzroy sq., W.).—8 P.M. Mr Augustus Harbord Syphilis Diagnosis and Treatment.

HARVEIAN SOCIETY.—8.30 P.M. Annual Meeting. President's Address, Solrè Exhibition of "Doctor's Art."

NEUROLOGICAL SOCIETY OF LONDON (20, Hanover square).—8.30 P.M. Annual General Meeting Inaugural Address by Dr Schafer on "The Nerve-cell as the Basis of Neurology."

Friday, January 20.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Eye Department, 2 P.M.

LONDON POST-GRADUATE COURSE.—Hospital for Consumption, Brompton 4 P.M., Dr J. Mitchell Bruce Interesting cases of Phthisis in the Wards.—Bacteriological Laboratory, King's College, 11 A.M. 1 P.M., Prof Crookshank The Microscope (Types of Bacteria).

Saturday, January 21.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and Skin Department, 9.15 A.M.

LONDON POST-GRADUATE COURSE.—Bethlem Hospital 11 A.M., Dr Theo Hyslop Melaucholla.

Notes, Short Comments & Answers to Correspondents.

EDITORIAL NOTICE

It is most important that communications relating to the Editorial business of THE LANCET should be addressed exclusively "TO THE EDITORS," and not in any case to an gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to the Office.

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET should be addressed "To the Publisher."

We cannot undertake to return MSS. not used.

PUBLISHER'S NOTICE

In order to facilitate the work of reference to the volume of THE LANCET, we have arranged in the future to publish duplicate copies of the Index to each half yearly volume in a form in which they may be subsequently filed or bound together.

We have had a large number of duplicate copies of the Index to the last half yearly volume printed, and those of our subscribers who may wish to be supplied with loose copies can obtain the same (without extra charge) on making application to the Publisher of THE LANCET.

REGULATIONS CONCERNING PATENT MEDICINES ON THE CONTINENT.

ACCORDING to an American Consular report which is referred to by pharmaceutical contemporary, the regulations of several European countries concerning patent medicines are a good deal more stringent than those of Great Britain. In Austria Hungary prepared medicines, whether patented or not, unless imported for druggists, require a special permit from the Customs authorities. All medicines as medical compounds are excluded from protection by the Austrian Patent Law, and the sale of such is permitted only to and in drug stores. In Belgium patent medicines can only be sold by apothecaries or other authorised persons, and must bear the seal of the

her who assumes the responsibility of the product. In Denmark a sale is confined to apothecaries. France entirely prohibits the sale of secret medicines unless they are approved by authority and the formula is inserted in the official formulary. In Germany all proprietary medicines must be retailed by a regularly sworn and licensed apothecary who is responsible for their effect on the patient, but the most serious restriction is the prohibition of advertisements of patent medicines in public journals when such medicines are made by a secret formula or process. This law is rigorously enforced in Baden and Prussia but less stringently so in Württemberg, Bavaria and some parts of Northern Germany, while in Saxony the authorities exercise the right of prohibiting the sale altogether. In Italy the composition of a patent medicine must be approved by the Board of Health. No patent medicine is allowed entry into Russia unless special permission is on each occasion obtained from the Medical Department of the Minister of the Interior. If, after careful examination it is proved that the production of such medicines requires elaborate work and expensive apparatus it is allowed entry subject to a duty of about 1s. 8d. per pound. In London provided such medicines are regarded as beneficial and are compositions durably preserved. In Sweden, Switzerland and Turkey there are but few restrictions.

r. Fred W. Woolcock.—1. The medical degrees of Melbourne are registrable in the United Kingdom. 2. The registered holders of them, we should imagine, would be qualified for examination for medical appointments in the army and navy like other registered persons but we are not aware that any such colonial graduates have presented themselves for examination. 3. A gentleman holding diplomas in medicine and surgery from the Melbourne University can practise in both branches in the United Kingdom. In the sense of practising medicine he will be a 'physician, though not so in the restricted sense of practising exclusively as a medical consultant and of being a Member of a College of Physicians. He is of course entitled to call himself a surgeon.

r. F. R. Humphreys.—We know of no society for helping such a case.

'INFECTION AND CONTAGION'

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Dec. 31st, 1892, p. 1541 the application of the above terms is discussed and thereby we are given to understand that the word "contagion" is a somewhat convertible term with "contact"—viz. "It would conduce to clearness if the word 'contagion' were restricted to its precise signification of transmission by actual contact." It seems difficult to consider why it is assumed that the words "contagion" and "contact" should have any signification in common, unless indeed that to some there may be a phonetic link between the words. However it is no uncommon error for persons to consider that the substantive "contagion" has some Latin root justifying its applicability of the term so as to imply contact such, however there seems no ground for maintaining, nor, indeed do we find that earlier writers who adopted the word had any such indistinct or confused meaning for it. *Contactus* and *contingens* have no affinity with *contagio* ('an effect'). Further, as regards the use of the word 'To mix contagion to the propagation of disease by contact only would be to disallow the more comprehensive use of the term in our best authors.' (Hancock, "Laws of Pestilence" p. 24.) This author goes very fully into the meaning and use of these terms (chapter iii. on the use of the words 'contagion' 'infection' &c.). We cannot go very far miss if we understand contagion to be a property of a disease capable of infecting a place person or thing. To quote again 'Consonantly with these views it appears to me therefore that contagion should be entirely confined to that subtle matter, effluvium or emanation (sometimes called contagious principle particles or atoms) which generated the course of a distemper and passing from a person diseased either by contact near approach or the medium of infected materials and whether in a pure or vitiated air is capable of producing a similar disease in one that is sound or acting as an exciting cause in one already predisposed.' (Ibid. pp. 23 24.) Infection may be understood as the result or effect of contagion whether that effect be in a place person or thing. And yet the common usage of the word infection would authorise us in saying the infection infects a phrase that has to parallel in our language." (Ibid., p. 25.) It is not an uncommon question for medical men to have propounded to them by patients or others a correct definition of the terms in question and I think no unprofessional minds a very practical and simple definition is that infection bears just the same relation to contagion as smoke does to fire.

I am, Sirs, yours truly

C. E. MACNAMARA.

'WATCHMAKERS AS OCULISTS.'

To the Editors of THE LANCET.

SIRS.—With reference to a paragraph which appeared in THE LANCET under the above heading we beg to say that no instruction through the medium of a medical man has or will be given on our premises.

We are, Sirs, yours faithfully

London Jan. 10th, 1893.

J. RAPHAEL AND CO.

THE ETIQUETTE OF CALLING

A CORRESPONDENT writes Dr —, in practice at —, takes into partnership Dr —. What is the etiquette as regards the latter as to calling on practitioners—does the usual custom of the new-comer calling on the resident practitioners prevail or not?

*. Certainly. The fact of partnership does not alter the etiquette of the case.—ED. L.

Mr C. T. B. Mauley (Scarborough Hospital) writes — I should be greatly obliged if you will kindly give me your opinion on the following case. An old man of seventy seven years was knocked down in the street and sustained a 'fractured femur (neck of left) for which he was brought to hospital the same day (Nov. 10th, 1892). After remaining in hospital for a period of five weeks he went out on his own account. He then obtained a dispensary ticket (or rather two days afterwards) and I saw him at his own home and found him in the same condition as when leaving hospital. After being at home for five days a hernia (scrotal) which he had had for some twelve years became strangulated. I advised his removal to hospital and helped in conveying him there the next day. He was operated on the same evening and died on the fifth day after from peritonitis and exhaustion. I gave a certificate in accordance with above. The registrar refused it and informed the coroner but he was not satisfied with that and told the friend I had no right to give a certificate. An inquest was held and the jury unanimously agreed that the cause of death was as certified by me and this quite apart from the accident and in spite of a fairly severe cross-examination on the part of the coroner. The members of the staff at the hospital whom I have taken the liberty of asking say I had a perfect right to give a certificate. I shall feel greatly obliged if you will give the valuable opinion asked for.

*. We do not see the reason for an inquest in this case. We think the certificate should have been signed by the resident or operating member of the hospital staff as the last in attendance, for the hernia and its consequences.—ED. L.

Subscriber will find the statistical information which he desires in the Registrar General's Fifty third Annual Report (see Tables 17 18 and 19) published by Eyre and Spottiswoode price 1s. 3d.

Mr F. Tyrrell.—We regret that the grievance referred to should exist, but possibly the publication of our correspondent's letter might increase it instead of remedying it.

AN APPEAL

To the Editors of THE LANCET.

SIRS.—I shall feel obliged if you can find a corner in your next issue for the enclosed appeal. The case is an urgent one as Mrs. Ginders is left practically without means of subsistence. There are many old friends and fellow students of Mr Ginders whose present residence is unknown to the committee and whom consequently we can only reach through your columns.

I am, Sirs, yours faithfully,

St. Mungo's College Glasgow

HENRY E. CLARK.

"By the wreck of the Anchor Line ss. *Roumania* off the coast of Portugal on Oct. 25th 1892 Alfred Gerard Ginders L.R.C.P. and S. Ed. the surgeon to the ship lost his life. He left a widow totally unprovided for who, although willing to work for her living is rendered unfit for any active employment by tibial osteitis, from which she has suffered at intervals since childhood. Mr Ginders had only obtained his diplomas in July last and had consequently no opportunity of making any provision whatsoever for his wife. A small committee has been formed for the purpose of raising such a sum of money as may enable Mrs. Ginders to earn a living in some light employment suitable to her condition of health. The committee consists of—Henry E. Clark, Professor of Surgery St. Mungo's College, Glasgow John Macintyre M.D. Lecturer on Diseases of the Throat and Nose, Glasgow Quintin M. Lennan M.D. Assistant Surgeon, Glasgow Royal Infirmary (treas.). Subscriptions will be received by Dr. M. Lennan, 191 Pitt-street Glasgow and a direct acknowledgment sent."

ERRATA.—On page 36 column 1 line 21 of our leading article last week on 'The University of Edinburgh and Special Diplomas' 'the Act of 1853' should read the Act of 1536.—We regret that by an accident the figure numbered 8 in illustration of Dr John Anderson's article on Clinical and Therapeutical Notes on Two Cases of Aneurysm published in our last issue was wrongly placed. It was as the context obviously shows intended to illustrate the position of the aneurysm in the second case.

During the week marked copies of the following newspapers have been received—*Liverpool Daily Post*, *Leith Burghs Pilot*, *Cambridgeshire Weekly News*, *Eastern Morning News*, *Hull Daily Mail*, *Carlisle Patriot*, *Louth Times*, *Liverpool Mercury*, *Bradford Observer*, *Louth and North Lincolnshire Advertiser*, *Weekly Free Press* and *Aberdeen Herald*, *City Press*, *Leeds Mercury*, *Food, Drugs and Drink Journal*, *Bristol Mercury*, *Mining Journal*, *Reading Mercury*, *West Middlesex Standard*, *Local Government Chronicle*, *Local Government Journal*, *Sunday Times*, *West Middlesex Advertiser*, *Cutler*, *Le Temps (Paris)*, *Weekly Scotsman*, *Bradford Daily Aegis*, *Kelso Mail*, *West Sussex Gazette*, *Hertfordshire Mercury*, *Dundee Advertiser*, *Western Morning News*, *Manchester Courier*, *Scotsman*, *Northern Whig*, *Huddersfield Chronicle*, *South Wales Daily News*, *New York Herald*, *Pioneer Mail*, *Times of India*, *Birmingham Argus*, *West Lothian Courier*, *Law Journal*, *Optician*, *Midland Evening News*.

Communications, Letters &c. have been received from—

- A.—Dr Jas Anderson, Lewisham, Mr W Anderson, Carmarthen Messrs Abraham and Sons, Kingston on Thames Messrs Armour and Co London, Angier Chemical Co, London, Apothecaries Hall, Secretary of, Alderney
 B.—Dr H. C. Bastian London, Dr Ernest H. Brock, Maidstone, Dr Palemon Bes', Louth, Dr Dudley Buxton, London, Mr A Byerley, Portsmouth Mr Ed H Bearne Mr W M Beaumont, Bath, Mr A O Bobardt, Putney, Mr C H Byers London Mr T B Browne, London, Messrs Barker and Co, London, Messrs Brand and Co, Mayfair, Messrs Bolton and Paul, Norwich, Messrs Blondeau and Cie, London, "Bishagdas", Sholapur, Editor of *The Builder*, Publisher of Borough of Rochdale Clerk of, Bachelor London, Birmingham General Hospital.
 C.—Dr C. Creighton, London, Dr R. Carmichael, Edinburgh, Dr S B Cook, Ramsgate, Mr A. Carter London Mr J W Cleland, Glasgow Mr Henry E Clark Glasgow Mr Jas C Clark, Southsea, Mr Clemons Liverpool Messrs. Cassell and Co, London, Messrs Crossley Mole and Co, London, Messrs F Charles & Co, London Mrs C. O. Waltham Abbey County Asylum, Prestwich.
 D.—Dr T Hugh Dickson, London, Mr John Duncan Cardiff Mr F J Davies Gwm Carne Mr H M Doyle New South Wales, Messrs S Deacon and Co, London, Messrs Dawson & Sons, London
 E.—Mr A Reginald Evershed, Hampstead, R. A. W
 F.—Messrs. Fletcher Russell and Co, Warrington
 G.—Prof. Gairdner, Glasgow Dr T A Green Yorks, Mr Good, Robertsbridge, Mr H W G Green, Ferrol
 H.—Dr A Harkin Belfast Dr O Holman, London Dr W Hill, London Dr Henry Lewisham Mr W J V Harle Hackney Mr F B Humphreys London Mr G G Hamilton Liverpool Mr Lawrence Hamilton Brighton Mr J Heywood, Manchester Humanitarian League
 I.—Inquirer
 K.—Mr R. C. B. Keir, Chancery lane, Mr R. Kershaw, London
 L.—Dr J Fletcher Little, London, Surg Lieut Col Lawrie, Hyderabad, Mr T B Lightfoot, London, Mr A Leckie London Mr H. K Lewis, London Mr Reginald H Lucy, Plymouth Liquor Carnis Co, London, Liverpool Royal Infirmary
 M.—Dr A McLennan, Runcorn, Dr Mousat Kensington Dr T More Madden, Dublin, Mr C F Macnamara, Dublin Mr G Mantin, Paris, Mr J Marks, Greenwich road Mr W Marriott, London, Messrs J & R Morley Mr A G Miller, Edinburgh Messrs Martin Littlefield and Co London Messrs Macmillan and Co London Messrs Merry weather and Sons, London, Medallist, London, Maritime Co
 N.—Dr B. H. Nicholson Colchester, Mr Hudson Nicholson, Sheffield.
 O.—Dr Henry O'Neill Belfast, Dr D Oliver, London, Owner, Birmingham
 P.—Dr A. E. Permewan Redruth Dr H Heygate Phillips, Reading, Dr W T Prout Edinburgh, Mr Pizzala, Inilton Garden Mr Arthur F Price Longton, Messrs. Parke Davis and Co, The Plumbers Co, London.
 R.—Dr W S Ross, Turfiff, Mr A. Rajasingham, Aberdeen Mr G E. Richmond, Manchester, Messrs. Reynell and Son, London, Messrs J Raphael & Co London, Rochdale Infirmary, Royal South Hants Infirmary, Southampton.
 S.—Dr C E. G. Simons, Merthyr Tydfil, Dr Scilla, Potenza Italy Mr Marmaduke Sheild, Mr R. Smith Cobham Mr R. Smith, Newcastle on Tyne, Mr W Stallard Worcester Mr Stenhouse Glasgow, Messrs. Savory and Moore London, Messrs Shand Mason and Co, London Saltair, Birmingham Sanitary Association, Church of England, Manchester St. Luke's Hospital London
 T.—Sir Henry Thompson London Dr H H Tooth London, Mr E Wilson Taylor, London, Mr G M Taylor London Mr G M Thompson Stourport Dr L A O Tyrrell, London, Tenax London.
 U.—Ulton, London

V-V M S

W.—Dr Samuel Wilks, London, Dr Wyon Westcott, London, Dr Welch, Brighton Mr R. Watson, Fleet-street, Mr J Woodland,

Marylebone, Mr D. E. Wilson, London, Messrs J Wright and Co, Bristol, Messrs Wright, Dain and Co, Birmingham W London.

Letters, each with enclosure, are also acknowledged from—

- A.—Dr J. A. Armstrong, Wolverhampton Mr W O Arnison, Annandale, A. M. L., London A. Z., London, Ashford Local Board.
 B.—Dr Bourke, Earls Court, Dr J W Bond Harley street Mr E. F. Brodie, Wickham Market, Mr E. Beck, Westmoreland, Messrs. Burroughs, Wellcome and Co London, B W M., London, B A London, B F, London, B, Stroud green Beta, London.
 C.—Mr T Catterin, Newcastle-on Tyne, Mr H. Collins, Watford Mr Chestnut, Tralee, Madam Caplin, London, Messrs. Chapman and Co, London, Messrs. G and T Carlyle, London C. R., Glasgow Certainty, London Class Rooms, Edinburgh, C F, London, Cecil, London.
 D.—Mr W W David, Tonypandy, Mr J Dunningham, London, Miss Dandison, Bournemouth Devon, London, D T W, Cheltenham, D P H, London
 E.—Dr C. R. Elgood, Battle, K. C. B., London.
 F.—Mr T H. Flske, Aylesford, Felix London F P, London, Fairfax, Sheffield
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Clinical Lecture

ON

MYXŒDEMA AND THE RECENT ADVANCES
IN ITS TREATMENT.*Delivered at the Royal Free Hospital*By HECTOR W G MACKENZIE, M.A. EDIN.
M.A., M.D. CANTAB, F.R.C.P. LONDASSISTANT PHYSICIAN TO THE HOSPITAL AND ASSISTANT PHYSICIAN AND
PATHOLOGIST TO THE BROMPTON HOSPITAL FOR CONSUMPTION
LATE MEDICAL REGISTRAR TO ST. THOMAS'S HOSPITAL.

AS we have a patient attending here to-day who has been cured of myxœdema by the administration of thyroid glands by the mouth, as we have at present two patients in the ward in whom similar treatment has been tried, and as there are one or two patients waiting their turn for admission for the same purpose, I think I cannot do better than take the opportunity of recalling to your memory some important features of this extremely interesting disease and of giving you a short résumé of the steps by which the remarkable advance in its treatment has been made and results which have so far been obtained. The process of indeed, through which the treatment of the disease during the last two years (removing it from the all class of intractable diseases which constitute the medicine to the, at present, far too small one in which can be attributed not to the course of nature or intervention of medical skill), forms an important chapter of medical history full of promise and suggestiveness for the cure on similar principles of other maladies and is well worthy of your serious thought and consideration.

I propose, then, first to give you a very brief description of such facts as are known about the disease, which, I hope, may help you to recognise it when you meet with it. It goes without saying that it is useless for you to know how to cure a disease unless you are able to diagnose it. It is specially important for you to learn this now as you have an opportunity of seeing several typical examples of the disease and of comparing one with another, so that you may take with you into practice accurate mental pictures of these cases. For the disease is not a very common one, and you might be in busy practice many years without meeting with a single case, and it is quite possible—nay rather very probable—that unless you take advantage of your present opportunities you will not know it when you see it.

By far the most complete and valuable account of the disease which has yet appeared was published in 1833. I refer to the report of a committee of the Clinical Society of London, under the presidency of Dr Ord, to whom we are indebted not only for the name by which the disease is now universally designated, but also for a great deal of what is known of its symptoms and pathology. This report practically proved the identity of myxœdema, sporadic cretinism and the condition called by Kocher "cachexia strumipriva," which had been observed to develop after the total extirpation of the thyroid gland. It will necessarily rank as the standard work of reference on the subject for many years to come.

The incidence of the disease is in adults usually between thirty and sixty five. At one time it was thought that the female sex alone suffered from it but it is found also to occur in males although more rarely. It occasionally attacks several members of the same family which may result either from some common inherited tendency or from exposure to a common cause. It is invariably associated with atrophy of the thyroid gland, but what causes this atrophy is at present quite unknown.

When the malady is fully developed there is considerable increase in the bulk and weight of the body. The physiognomy undergoes a very marked alteration, and those affected have a strong family likeness to one another their features assuming a placid, mask-like form of expression. The eyebrows are elevated, the eyelids puff and the nostrils broadened. The lower lip is thickened, everted and livid, while the cheeks show a well-defined red patch, contrasting strongly with the pallor of the eyelids. The skin is dry and non-perspiring, rarely shiny and downy. The hair is dry and crisp, and

frequently very scanty not only over the scalp but on the eyebrows in the axilla &c. The subcutaneous tissue is swollen, especially in the hands, feet and legs giving one the impression of œdema, but not putting on pressure. There is usually fullness in the supra-clavicular regions, the gums are swollen and spongy, the teeth carious, the tongue, uvula and soft palate are swollen. The temperature is almost invariably subnormal and the patient suffers considerably from a subjective feeling of coldness. The patient is peculiarly slow in apprehension, thought and action, and is clumsy. Moreover the patient is quite aware of her slowness. Her memory is usually impaired for recent events. She is irritable or placid or alternately the one and the other. Her speech alone is frequently so characteristic as of itself to betray the malady. It is slow, monotonous and deliberate, and there is sometimes so much persistence in idea that there is great difficulty in changing the subject or in terminating the conversation. Sensation may be markedly retarded. Hearing, smell and taste may be impaired or otherwise abnormal. The patient may suffer from frontal or occipital headache, rheumatic pains or numbness or tingling in the extremities. There is frequently a certain amount of inco-ordination and the legs may give way unexpectedly. Sometimes the patient suffers from cramps. The pulse is usually weak, soft and slow. There is a tendency to hæmorrhage from the throat, gums, nose and uterus. The urine is generally of low specific gravity and at a late stage usually contains albumen. All the symptoms undergo aggravation in cold weather. You must not expect that all these symptoms will be present at the same time in every case, but you will find a sufficient number to make you tolerably sure of the correctness of your diagnosis.

The course of the disease is slowly progressive, although in some cases periods of remission have been noted. In one case the disease is said to have disappeared during two successive pregnancies and in another its symptoms diminished under the same circumstances. In one case recovery it is alleged, occurred after two years and a half. Such a result is, however, most unusual. As a rule while life lasts it is a burden. Many of the patients end their days in asylums. Some are carried off by phthisis or other intercurrent disease, while the remainder die sooner or later from the disease itself.

The characteristic morbid changes found after death are few. As a rule the subcutaneous fat and often that elsewhere is over-abundant. Passive effusions into the serous cavities and slight anasarca are not infrequent. The thyroid gland is in every case atrophied, as you see in the specimen I am able to show you from the museum. Although the kidneys, lungs, heart or arteries may be diseased there is no change in them peculiar to myxœdema. Distinct histological changes are limited to the skin and thyroid gland. In the skin there is swelling of the epithelium of the tubes of the sweat and sebaceous glands and obliteration of their lumen, with nucleated fibrous growth in the surrounding tissues. In the thyroid gland in the earlier stages there is a small celled infiltration of the walls of the vesicles, accompanied or followed by epithelial proliferation in their interior and in the later stages the gland becomes converted into a delicate fibrous tissue, in which the remains of the vesicles are represented by clumps of small round cells.

As you are doubtless aware the name "myxœdema" was given to the disease by Dr Ord on account of the excess of mucin found in the swollen subcutaneous and other connective tissues. This excess was very striking in Dr Ord's original case and it has been confirmed by observations in cases of experimental myxœdema and in some human cases, and although examinations of other cases have shown that at the time of death mucin may not be in excess there is little doubt that it is an essential feature at a certain stage of the disease. Excess of mucin has been found in internal organs, such as the lungs, spleen and parotid, as well as in the subcutaneous tissue.

In regard to treatment, at the time of the Clinical Society's report little could be done to alleviate the disease, little or no hint to check its progress. Tonics, jaborandi and nitro-glycerine were given to improve the appetite and to act upon the skin and were reported to have produced temporary benefit. For such patients as could afford it, migration to warmer climates during the winter was strongly recommended. But the labours of Dr Ord, Professor Horsley, Dr Semon and others had brought the knowledge of the disease to such a pitch that a cure for it was no longer wanting. Dr Ord in his original com-

munications on the subject had called special attention to the atrophic condition of the thyroid gland. Dr Semon, struck by the resemblance of the train of symptoms observed by Kocher to follow after complete thyroidectomy, had first brought the matter forward in this country and by indefatigable energy was principally instrumental in collecting the vast amount of evidence tending to prove the identity of this cachexia with myxœdema. Professor Horsley, by numerous laborious experiments, showed the close resemblance of the dyscrasia produced in some of the lower animals by the removal of the thyroid gland to human myxœdema. The result of these investigations amounted to a proof that the one thing lacking in the myxœdematous condition was a functionally active thyroid gland. Professor Schiff and others after him had shown that the evil effects of thyroidectomy in animals could be diminished by transplanting a thyroid gland previously to the operation. This important observation Professor Horsley followed up by suggesting a similar procedure as a possible means of arresting the progress of myxœdema. This suggestion was accordingly soon carried into execution and the operation was attended with striking but unfortunately only very limited and temporary improvement. The difficulty was to effect the survival of the transplanted gland in its new position and what actually happened was its absorption by the surrounding tissues. The fact of improvement at all was, however, encouraging. The benefit resulted so soon after the operation that it could be explained only by the absorption of some substance actually present in the gland at the time of transplantation. I have not seen any explanation of the curious fact of the great amelioration of the disease during pregnancy to which I have already alluded, and it seems to me likely that the thyroid of the fœtus supplied for a time the place of that of the mother, the benefit naturally terminating with delivery.

The next step was the employment of hypodermic injections of a glycerine extract prepared from thyroid glands, first in animals after thyroidectomy, and secondly in myxœdema. The fact of its usefulness in animals, with which the names of Vassale and Gley are associated, suggested to Brown Séquard and d'Arsonval its probable utility in myxœdema, but, apparently quite independently, the idea of its use seems to have occurred to Dr George Murray of Newcastle who was amongst the first, if not actually the first, to employ this mode of treatment, and certainly the first to prove its success. By Dr Murray's method very beneficial results were soon obtained by other physicians, and numerous reports of cases successfully treated by it appeared in the medical journals and in the transactions of the medical societies. But, excellent as these results were, the method was not altogether free from objection. Some sensitive patients shrank from the hypodermic needle. Unless the fluid used for injection was absolutely aseptic subcutaneous abscesses and indurated swellings were apt to follow the injections. It was also found that rather alarming symptoms, such as lividity, pain, loss of consciousness, temporary loss of power in the extremities or general muscular spasm, sometimes supervened during or immediately after the administration of the injection. The difficulty with which the physician had to contend when he prepared the extract himself has been removed and the risk of the occurrence of septic abscesses has been greatly lessened by the enterprise of Messrs Brady and Martin of Newcastle, who now prepare weekly a sterilised extract which they supply at a moderate cost considering the care required in its preparation. Putting the risk of local effects apart, however, I cannot but consider the even rare occurrence of such unpleasant symptoms as I have mentioned a serious drawback when a long series of injections has to be taken into account.

The next advance, and a very important one, is closely connected with the patient who is hereto day to all intents and purposes cured of myxœdema. This was the discovery which I made that the administration by the mouth of the thyroid gland or of a preparation derived from it served the same purpose as hypodermic injections of thyroid extract—in fact, had all its advantages without any of its disadvantages. By a curious coincidence the same discovery was made about the same time quite independently by Dr E L Fox of Plymouth and an account of his case appeared simultaneously with that of mine.¹

Some of you may remember my patient when she first came under my care three years ago. She was then thirty seven years of age but from her appearance she might have very well passed for fifty. At that

time the disease had been fully established for two years and a more typical example of it than she presented you could not possibly have found. I admitted her to this hospital in February, 1890, in hopes that an opportunity might present itself of carrying out Professor Horsley's then recent suggestion of transplanting a thyroid gland, an operation which Mr Battle, who saw the case in consultation with me, undertook to perform as soon as possible. While we were waiting for a suitable case from which to transplant, the patient became impatient and went home. She continued under my care, however, and attended very regularly as an out-patient, receiving benefit, as she thought, from infusion of jaborandi and tonics. Shortly after the publication of Dr Murray's paper I admitted her again as an in-patient and made arrangements to give her the benefit of the new treatment. Through indisposition I had to give up work for a short time, so that it was not carried into effect, and again the patient went home. In July last year she was admitted for the third time and the success which has followed what was an untried treatment more than compensates for the disappointment on the two previous occasions.

During the two years and a half we had been watching the patient the disease had been slowly but steadily progressing. Whether our treatment by jaborandi, tonics, rest in bed, massage and the other means we had employed had prevented a more rapid progress we cannot say. Certainly she had been temporarily benefited a little by her two admissions and she herself had some faith in the efficacy of the medicines prescribed for her. Many of you will remember her condition before we started the new treatment, her great bulk, heavy expression, her coarse swollen features, thick protruding livid lips, broad nose, flushed cheeks, contrasting with her waxy yellow complexion, her bald and scaly scalp, large clumsy hands, harsh dry unperspiring skin, œdematous lower extremities, her incapacity for exertion and slow monotonous speech, the general feebleness of all her mental processes, her constantly subnormal temperature, and all this in the middle of summer, the most favourable season for patients suffering from this disease. You see her now six months later a bright, active, even lively woman, by no means too bulky, with little or no trace of the former swelling of the face, with healthy complexion, luxuriant growth of hair covering her scalp, hands normal in appearance, moist supple skin, extremities free from œdema, capable of all ordinary exertion, quick in speech, and in full possession of all her mental faculties.

Let me remind you of the manner in which this transformation has been brought about. When I admitted the patient last July it was with the full intention of treating her by the hypodermic method. I was, however, deterred from doing so by observing that in one patient treated in this way a local abscess and pleurisy followed, while in others local discomfort and indurated swellings occurred. It was not long before I determined to try a new method and some of you seemed a little surprised when I wrote on the bed ticket "two sheep's thyroid glands to be obtained fresh from the butcher and to be given to the patient finely minced every day." I purposely ordered a full dose because I thought if the glands were active at all when given in this way the action would be much slighter than when the juice was given hypodermically. You may remember we had some difficulty in getting the butcher to comprehend what we wanted. At first he sent the thymus then he sent the trachea with nothing on it, but eventually he provided the trachea with the gland covered by the muscles intact. As you may later on have the same difficulty to contend with those of you who have not already done so should take the opportunity of acquainting yourselves with the appearance and situation of the sheep's thyroid gland. The isthmus is so rudimentary that you may easily overlook it, but you will have no difficulty in recognising the oval shaped darkish red lobes underneath the muscles on each side of the trachea, a little smaller than the normal size of the lobes of the human gland. The effect of the administration of the minced glands on the temperature and on the sensations of the patient was almost immediate. The temperature became normal or even a little above normal while a comfortable sensation of warmth pervaded the patient's body. Although I had ordered the glands to be given every day she did not have them nearly so frequently, as they were not given if there was the least suspicion of staleness about them. During the first fortnight the patient had had eight thyroids and two drachms of thyroid extract by the mouth. By the end of that time her appearance had very considerably altered for the better. Her

pulse rate, however, had quite doubled its former rate, having risen from an average of 56 to 116. The rapidity of pulse persisting, I discontinued the thyroids for a time, when the rate gradually fell to about 80. The patient from time to time was troubled with vomiting, and this—as it sometimes occurred after the thyroid glands—I was at first inclined to attribute to the knowledge she had that she was taking something raw and the nausea induced thereby. Experience of other cases has, however, convinced me that vomiting, like increased frequency of the pulse, is a sign that too much of the remedy is being administered and is the indication for its temporary cessation. If the remedy is pushed vomiting may become an exceedingly troublesome complication. The progress of the patient was in every other way completely satisfactory, and the rapid manner in which improvement manifested itself was one of the most striking features of the case. The change in the face was an early result. It seemed, indeed, as if a mask had been removed from it. The alteration in the hands and feet soon followed. About six weeks after the treatment was started the hands and feet desquamated as completely as after scarlet fever and a delicate, soft skin replaced the former thick, coarse cuticle. With the rapid loss of bulk there was an equally rapid loss of weight, so that there was a difference of two stones in two months. The improvement in the mental condition and in the speech set in almost as early as the physical changes. One of the most striking changes was that on the hair and this became noticeable a little later than the other events. About two months after the treatment was started, you may remember, we found a very thick growth of hair was beginning to appear on the scalp, and now from the different length of the new and the old hair you can see what a quantity of new hair has grown. When the patient commenced to get about again after being confined to bed so long she was for a time troubled with slight oedema of the feet and legs, which you will remember she had to a much greater degree at the time the treatment was commenced. The oedema, however, soon disappeared as the heart got stronger. You must bear in mind that the heart has to recover as well as the rest of the body, and that there is a possible danger of syncope if unwonted muscular exercise is engaged in too early. We must therefore insist that for a time the convalescent patient should take things easily and lead a more or less inactive life. During the first month or two the mode of administration of the gland which we adopted was extremely simple. I have already mentioned that the finely minced gland was taken with a small quantity of brandy or beef tea. Latterly the nurse has prepared it a little differently. After mincing it she lets it stand for about half an hour with a few teaspoonfuls of water, and then strains the whole, squeezing the juice through a piece of linen or muslin. The expressed fluid is added to some beef tea. This home-made extract appears sufficiently potent to keep our patient in good health, although she only has it once a week. The gland has also been given lightly fried in some cases without destroying its good effects, but it is extremely probable that thorough cooking will be found to render it inert.

Later experience has confirmed my surmise that much less of the remedy is required than I at first employed. A gland or half a gland or the extract therefrom twice a week is as much as it seems advisable to commence with, and at a later period the same amount once a week appears to be sufficient.

In order to have the remedy in an ideal form it should be palatable, easily procurable and cheap. It would therefore be a great desideratum to be able to manufacture on a large scale a permanent preparation from thyroid glands in a less costly manner than that necessary in the case of the extract prepared for hypodermic use. Mr White, the able pharmacist of St. Thomas's Hospital has for some time been working with this end in view and he has succeeded in preparing a powder which is tasteless, keeps perfectly, and, as far as it has been tried, apparently answers very well. One of the patients in the ward is being treated with this preparation and her progress so far is perfectly satisfactory. Should this powder fulfil our expectations then I think the treatment will have advanced as far as we can possibly expect it to do.

It was natural that the thyroid treatment, having proved so successful in myxœdema, should be tried in the other disease which is so closely related to the thyroid gland—namely Graves' disease or exophthalmic goitre. It has long been a moot point whether the thyroid enlargement was simply one of the phenomena of that disease or whether it was associated with a perversion of the function of the gland

which was as much the cause of the other symptoms as the atrophy of the gland is the cause of those of myxœdema. In my lectures on Graves' disease, published in THE LANCET of Sept. 13th and 20th, 1890, I considered this question and gave reasons for my opinion that the change in the thyroid was only a concomitant symptom and not the basis of the disease, which I looked upon as being essentially dependent on changes in the central nervous system. If, however, the disease were due to a morbid condition of the thyroid it certainly could not be of the nature of a deficient supply of juice, but would rather be an over secretion of either normal or perverted juice. If the symptoms of the disease owed their origin to a perverted secretion the administration of thyroid juice might reasonably be expected to benefit, but if they were caused by an increased secretion it should intensify them. I have given the thyroid treatment a fair trial in two cases of Graves' disease under my care, one of which is at present in the ward. In neither case has it appeared to have any effect at all on the symptoms or course of the disease. In both cases I gave the patients the minced gland by the mouth sufficiently frequently and for a sufficiently long time to produce an effect, if any effect were capable of being produced. We must therefore look in other directions for the cure of Graves' disease.

The great distinction between the thyroid treatment of myxœdema and the method of treatment recommended by Brown Séquard for a great variety of diseases, from cancer to hysteria, with which method it has been compared, is the thoroughly rational and scientific basis of the former. It is on such a foundation we must look for advance. The more thorough our acquaintance with the pathology of disease the more hope is there for the discovery of a cure. I feel sure that the cure which has been found for myxœdema will before long be followed by the discovery of as potent remedies for what are at present thought quite as incurable and hopeless diseases as myxœdema itself until very recently has been considered.

THE SENSITIVENESS OF THE PERITONEUM

By LAWSON TAIT, F.R.C.S. EDIN. &C.

THE question of the sensitiveness of the peritoneum was raised in a discussion in THE LANCET in December last by my having given utterance to opinions in the following sentences: "My own experience is that the slightest touch by the finger or sponge or instrument applied to almost any part of the peritoneum in a patient who is not only not sensible, but who is partially or even almost completely anaesthetised in the sense that he is only just beginning to come out of the chloroform, at once gives rise to movements of the abdominal wall and limbs which indicate pain. I have very rarely been obliged to put my fingers within the peritoneum of a patient not under an anaesthetic, but these few experiences resulted in such agony to the patients that it became evident that modern abdominal surgery without anaesthetics would be an absolute impossibility. All these cases were instances of serious and sudden hæmorrhage, where to have waited for unconsciousness would have been to have waited too long. The agonising pain of hæmorrhage into the peritoneum—an experiment tried very often by Nature herself, as quoted by Dr Gee—is quite confirmatory of the facts as I have seen them. However, these are both points of much interest, upon which the attested experience of other surgeons ought to be given." My interpretation of these phenomena was controverted by Dr C. S. Sherrington, who said in a letter published in THE LANCET of Dec. 17th, p. 1417, that "the peritoneum was shown by Haller in the experiments of his famous essay to be quite insensitive to mechanical and many other modes of excitation", and further that "the healthy peritoneum is a membrane sentient under mechanical interference is a dictum which Mr Tait will, I imagine find as difficult to substantiate before the surgeon as before humble followers of Haller's science like myself."

It is of course, perfectly possible for any human observer to be mistaken in his records, yet I could hardly believe that I could stand alone in the observation of what seemed to me facts of almost weekly occurrence, and I suggested that it might be that my interpretation of the facts was mis-

taken So persistent, however, was my experience in the matter that I had come to look almost with terror to the performance of any operation in which the anæsthetic was administered by anyone not accustomed to give anæsthetics in the performance of abdominal operations. When it happened that I had to perform an operation under such circumstances I found it certain to be the result that I had to press the administrator to push the anæsthetic more deeply than he was disposed to do, and that as my fingers got more and more deeply inserted amongst pelvic viscera not at all in association with parietal peritoneum the necessity became greater for pushing the anæsthetic, and, whatever the explanation may be, it will not be found in the statement that one part of the peritoneum is insensitive whilst another is sensitive. Since writing the letter to which I allude I have had to perform several operations where the anæsthetist has been called casually or in an emergency to assist and have therefore had opportunities of deliberately watching the phenomena I have already described, and I have found that my fingers on touching the back of the uterus, folds of intestine, great omentum, the front of the rectum, the pelvic wall and the posterior parietal surface, give rise to such movements in incomplete anæsthesia that I had to insist on deeper insensibility. I am therefore satisfied that, whether these movements are indicative of pain or not, the facts show that all parts of the peritoneal surface, or at least such as usually come in contact with the fingers of the operator, are capable of exciting precisely the same phenomena. The interpretation which I put upon these facts that the movements of the patient are due to pain may be wrong, just as the view that some of us hold that the wriggings of a worm impaled upon the fisherman's hook are indicative of extreme agony on the part of the worm may be perfectly mistaken, for the worm may be really enjoying it, but when I have the experiments of nature in acute peritonitis and accidental effusion into the peritoneum causing pain to a degree which amounts to agony, I am not disposed to accept any mere assertion that the movements are reflex and that the peritoneum is insensitive.

Whatever be the true explanation, I am glad that the matter has thus been brought prominently under notice, and for the following reasons. I think the facts as they are substantiated by many of my correspondents show that here as elsewhere it is perfectly impossible to accept the conclusions derived from experiments on animals as applicable to man even when they have such an authoritative origin as the celebrated Haller. It is probable also that it is dangerous to accept the conclusions derived from one human patient as applicable to another of the same kind. Again, it seems to me a wholesome humiliation for all of us to find that, in a matter of physiology so simple and on a point of surgery so cardinal, our ignorance is even now profound and, I venture to think, discreditable. The discrepancies evident in the conclusions of my various correspondents show that our habits of observation are very inexact and our tendency to trust to the teachings of authority far too great. Doubtless within the next few months the real facts of this important point will be definitely settled and the erroneous conclusions of one side or the other will be corrected.

As a method of obtaining evidence on the question I asked my secretary to issue the following circular to all the surgeons of Great Britain and Ireland whose names are familiar in connexion with abdominal work. Unfortunately he did not preserve a copy of the list, but it contained over thirty names. There are many who have not replied upon whose evidence I depended largely for a settlement of the question. As far as it goes the evidence does not settle it. The funniest part of the evidence is that of my two assistants, the brothers Christopher and Charles Martin. Their opinions are based on precisely the same cases as are my own. Christopher agrees with me, whilst the interpretation of the phenomena by Charles differs from ours entirely.

"The Crescent Birmingham, Dec 17th 1892.

"MY DEAR SIR.—A question has arisen respecting the sensitiveness or otherwise of the human peritoneum.

"According to my own experience, if the fingers of the operator enter the peritoneum before complete anæsthesia has been arrived at, strong muscular contractions and active resisting movements of the patient inevitably occur, and the operative proceedings have to be suspended until profound unconsciousness is attained. The same phenomena occur if by any means the patient is allowed to become partially conscious during the operation.

"I have on a few occasions been obliged to insert my

fingers into the peritoneal cavity in grave emergencies without waiting for an anæsthetic, and the screams of the patient have been almost deterrent. Perforation of any part of the intra-abdominal viscera with effusion of blood or intestinal contents in a conscious patient has, in my experience, always been followed by pain of such instantaneous occurrence and such violence that I regarded it as due to the contact of the foreign matter with the peritoneal nerves.

"My conclusion from these facts has been that the human peritoneum is extremely sensitive, and I should be glad to know if you agree with this conclusion. In the event of your not agreeing with it may I venture to hope that you will give me your reasons, so that we may obtain some conclusive evidence upon a matter so important?

"I am, yours very sincerely,

"LAWSON TAIT."

Dr W Sinclair Thomson writes "In reply to your wish for my opinion 'as to the sensitiveness or otherwise of the human peritoneum,' I beg to state that I believe it to be extremely sensitive."

Mr Alban Doran writes "There can be no doubt that the reflex sensibility of the peritoneum is considerable. This is seen by the sudden contractions of the recti when the peritoneum is touched, the patient not being completely under the influence of the anæsthetic. This effect is most evident when a sponge is used or when the water employed for flushing is too hot or too cold."

Dr C J Cullingworth writes "With regard to the sensitiveness of the healthy peritoneum my experience is entirely at variance with yours. It has never happened to me to witness the phenomena you describe, and I am strongly of opinion that you will find, when your attention is directed to the point more closely, that you have in this instance made an erroneous observation and credited the peritoneum with a sensitiveness that really resided in other tissues."

Dr Heywood Smith writes "I fear I cannot throw much light on the question of the sensitiveness of the peritoneum. I cannot recall any instance when I have been in a position to make any observation when the patient has only been partially anæsthetised. Perhaps this is because I have not looked for it. In future I will bear it in mind."

Mr J Greig Smith writes "It is quite impossible to answer in one word your question as to the sensitiveness of the human peritoneum. To begin with, you must distinguish between parietal and visceral peritoneum. Visceral peritoneum covering the intestine is practically devoid of sensibility to ordinary traumatic causes. This is beyond dispute. You may puncture, stretch, cut or completely resect the intestine without the patient feeling it. A form of words which I often employ in answering a patient's question as to whether the proceeding will be painful is that it will be felt 'no more than paring the nails.' It is quite easy for you or any friend of yours to verify the truth or falsity of this statement on patients of mine almost at any time. I publicly teach this, and publicly demonstrate it. At present I can let you talk with a patient from whom six inches of cancerous intestine were removed while she had no anæsthetic whatever. The parietal peritoneum, supplied by ordinary nerves of sensation, is of course sensitive to pain. The finger passed through a parietal incision comes in contact with sensory nerves in skin, muscle and peritoneum and sets up painful reflex muscular spasm as well. Certainly such a proceeding is painful, and no doubt some of the pain is from parietal peritoneum. It is almost impossible to have an effusion of blood, bile, intestinal or stomachic contents which does not overflow parietal peritoneum and so cause pain. Amongst the pelvic organs, where ordinary sensory nerves are abundant everywhere, sensitiveness is certainly present. And, again, a furious intestinal peristalsis, which may be set up by numerous irritants outside and inside the gut, is very painful. A gastric ulcer is painful when pressed upon and when gastric juices come into contact with it. Incision and suture of a healthy stomach are painless. You may wash, stow away and, if you like, puncture the extruded intestines of a human being without causing pain, but a recurrent inflammation of the vermiform appendix is extremely painful. My friend and former dresser, Dr Edgeworth, pathologist to the Bristol Royal Infirmary, will tell you the reasons better than I can. He has been doing 'experimental research' in Leipzig and elsewhere, and has published various monographs on the subject. His researches explain my clinical experience. Lastly, is it possible to isolate the pain felt in the peritoneum proper from the pain felt in an underlying organ? This may

be proved by 'experimental research,' but it cannot be proved by arguing.

Mr J Bland Sutton writes "To your question as to the sensitiveness or otherwise of the human peritoneum I enclose the following reply. 1. Healthy peritoneum is insensitive to such stimuli as evoke painful sensations in skin and mucous membrane—e.g., pin or needle pricks, incisions by knife or scissors and to digital manipulations. 2. Inflamed peritoneum, especially when covering intestine, is acutely sensitive. On two occasions I have introduced my finger into the track of a drainage-tube after operations on the pelvic organ. In each instance when my finger touched a coil of bowel, the peritoneal covering of which was inflamed, agonising pain was experienced by the patient. I once transfixed and tied a small protruding piece of inflamed omentum, the patient being conscious. The proceeding caused great pain.

Mr A. W. Mayo Robson writes "To answer your question by a simple 'yes' or 'no' is impossible, as it would be a 'yes and no'—i.e., I have found the parietal peritoneum to be decidedly sensitive to pain, whereas the visceral peritoneum I am equally certain is insensitive. This I think, easily accounted for, as the parietal peritoneum receives branches of the sensory nerves which supply the parts over it whereas the visceral layer only receives twigs from the sympathetic nervous system. The sensitiveness of the peritoneum is proved by the pain on inserting the finger without anaesthesia, which I have done only on two or three occasions, as also by the agony of perforation. The insensibility of the visceral peritoneum I have often proved in the second part of inguinal colotomy gastrotomy and similar operations done without an anæsthetic."

Mr J Stuart Naume writes "I agree entirely with your statement of facts. If, however, a man makes an incision a foot or a yard long in the abdominal walls or if he is dealing with a case nearly moribund, I think he may be excused for not noticing the phenomena you mention. There are a few more details which you might throw together in an unanswerable form shortly and dispose of the question. I hope to send you to-morrow the statements of two of my anæsthetists who have noticed what you refer to and who have been present at scores of my public cases."

Mr T R Jessop writes "The opportunities of testing this question have been few with me, but I have always been, and still am, under the impression that the peritoneum is not a very sensitive organ. In opening the sigmoid after an inguinal colotomy I never give an anæsthetic, and never that I remember has a patient expressed any suffering whether I have used scissors or cautery. I have several times seen the peritoneum bathed with urine and blood in cases of ruptured bladder in which pain has been absent or nearly so. An inflamed peritoneum is not painful unless indeed, it be stretched as in peristalsis or pressed upon as by the fingers or in distension. It is not my experience that extravasation of feces in rupture produces excessive pain. I have twice emptied the peritoneal cavity of many pints of feces where pain has not been a prominent symptom. May not the 'strong muscular contractions' and 'screams of the patient' have been due to the contact of your fingers with the abdominal wound? I have no experiments bearing more directly on the question than the above and my deduction may be wrong."

Dr James Murphy writes "In reply to yours I have never opened the peritoneum except when the patient has been under an anæsthetic, but in all my cases of gastrotomy and colotomy where I am able to do the operation in two stages in opening the stomach or colon the nurse puts a handkerchief over the patient's face. I did one yesterday, and I have asked the patient particularly and he assures me that he felt no pain and had no idea of what I had done until I told him. Another patient whom I did last week gives me the same assurance.

Dr J Rutherford Morrison writes "Perhaps the best way of answering your question of Dec. 20th will be to relate my experience. 1. In inguinal colotomy I find I can cut out the exposed sigmoid flexure and apply ligatures to bleeding points on it without causing pain. In two cases I have opened the intestine with the thermo-cautery without causing more than a disagreeable sensation. In two cases I have rushed and freely handled escaped intestine, the patient being conscious without much pain. From this experience my belief would be that the visceral peritoneum is not endowed with great sensibility. In one case recently I put my finger into a wound in the linea semi-

lunaris and passed it down to Douglas' pouch, the patient being a sensitive man and conscious. To assure myself that my finger was in the peritoneal cavity I swept it over the parietal peritoneum—round the wound. Very little complaint was made. In this case the parietal peritoneum was not very sensitive. A patient whose undescended testicle into a hernial sac I had excised bled into his peritoneum from slipping off the cord. He had little pain. A young man whose distended gall bladder I punctured with a hypodermic needle for exploratory purposes and whose gall bladder emptied into the peritoneal cavity within half an hour had not excessive pain. I have several times operated on ruptured ovarian cysts but could get no history pointing to a definite time of rupturing. Here, of course, there may have been some leakage from a small cyst. In cases of perforating gastric ulcer I have observed what you mention, great pain, but I have seen a case of perforation of the cæcum and the abdominal cavity flooded with feces without marked pain. There can be no question, I should say, about the depression and agonising sensation of impending death when foreign bodies are quickly introduced into the peritoneal cavity, and my experience would incline me to the view that this is more common than severe pain. I trust these short notes may be of service in your interesting inquiry."

Professor A. R. Simpson writes "As to the sensitiveness of the peritoneum I have no good grounds for forming any very decided opinion, though I am quite ready to receive any demonstration of its sensitiveness. The only case in which I saw intestinal coils protruding through a section wound—where some stitches had given way some twenty-four hours after operation—the patient complained of no pain when the bowel was touched. May it not be that visceral peritoneum covering organs supplied from the sympathetic system is not immediately sensitive, whilst the parietal peritoneum in pelvis and elsewhere covering structures supplied from the cerebro-spinal system of nerves may be exquisitely sensitive?"

Mr John D Malcolm writes "I am in receipt of yours of the 17th inst. concerning the sensitiveness or otherwise of the human peritoneum, but I regret that I am not prepared to give you any opinion on the subject at present."

Dr M Cameron writes "I am quite opposed to your idea of the peritoneum being highly sensitive. In many operations near the finish, when anæsthesia was not being pushed, neither when touching the peritoneum nor yet when passing needles from within outwards did the patient complain until the skin was reached when she was restless. Besides, after the removal of the drainage-tube I have passed a curved probe and the patient never manifested any sign of pain when the probe point was pressed upon the peritoneum. However, it is worthy your investigation, and I shall look for new light upon the subject."

Dr W J Smvly writes "The impression left upon my mind is that the peritoneum is not very sensitive to touch. I have not had many opportunities, however, for observation. On one occasion when I operated for a ruptured tubal pregnancy the woman was so collapsed that I only ventured to give her a whiff of chloroform when cutting through the skin and again when inserting the sutures, but though she winced then she made no complaint during the rest of the operation. In two cases in which I introduced a drainage tube into the peritoneal cavity on the third day after abdominal section the patients complained of pain when a stitch was removed, but neither the introduction of my finger nor of the tube appeared to cause any pain. I have often observed what you mention that though patients may remain quite passive during the section of the abdominal wall they writhed and draw up their legs when the hand is introduced into the cavity but this I have regarded as reflex action which persists after complete insensibility to pain, and the same thing occurs when the fingers are introduced into the rectum."

Dr G Granville Bantock writes "I have seen the correspondence—some of it, at least—which has taken place in the medical journals on the question of the sensitiveness of the peritoneum. My experience agrees with yours—viz., that if the fingers of the operator enter the peritoneum before complete anæsthesia has been arrived at strong muscular contractions and active resisting movements of the patient inevitably occur and the operative proceedings have to be suspended until profound unconsciousness is attained. This is more particularly observed in the case of using a sponge. I presume every operator of experience will tell you that this has frequently been observed by him. Nor will

anyone question your further remark that 'the same phenomena occur if by any means the patient is allowed to become partially conscious during the operation' When, however, you say that 'on a few occasions' when you have 'been obliged to insert' your 'fingers into the peritoneal cavity in grave emergencies without waiting for an anæsthetic' 'the screams of the patient have been almost deterrent,' then I must say my experience does not agree with yours. In a case of bursting open of a wound in a fat subject in the effort of coughing a day or two after the removal of the sutures, during the handling of the peritoneum in sponging (cleaning) the extruded intestine and inserting sutures there was undoubted sensitiveness manifested, but not such as to require the use of an anæsthetic. In this case, of course, the peritoneum was quite healthy. The same remarks apply to a case in which I had to open the wound and reinsert sutures on account of protrusion of omentum through a tube-hole (this case also furnished positive evidence that a drainage-tube may leave behind it absolutely no trace of its employment). But when we come to deal with cases in which there is peritonitis then the sensitiveness of the peritoneum is beyond dispute. I have met with several cases bearing on this point and in which the pain was undoubtedly very great. Nor do I imagine that anyone will dispute your assertion that 'perforation of any part of the intra-abdominal viscera' is 'always followed by pain of such instantaneous occurrence and such violence' as to lead anyone to regard 'it as due to the contact of the foreign matter with the peritoneal nerves.' One correspondent has related his experience in cases of colotomy (inguinal) as proving the non-sensitiveness of the peritoneum. He says that in those cases where the intestine is not opened till a day or two after the operation you may cut away the intestine as you please without signs of suffering on the part of the patient. He evidently sees no difference in the behaviour, if I may use the expression, as between healthy and strangulated tissues. On the whole, therefore, you will see that my experience closely corresponds with yours with the exception stated."

Dr William Travers writes "My experience on the very few occasions in which I have had to deal with the normal human peritoneum in the unanæsthetised patient has led me to consider this membrane very insensitive—notably so in two cases of incised wounds of the abdomen and large intestinal protrusion which had to be returned through enlarged openings, here, too, the peritoneum may be presumed to have been in a healthy condition. Of course the amount of collapse existing in these and, indeed, probably in all cases that we now deal with without an anæsthetic may have had something to do with the seeming insensitiveness. But, again, I have also noted and expressed to those present—in cases where the patients have been allowed to 'come round' from the anæsthetic ere the 'sewing up' was finished—that the passage of the needle through the skin apparently gave rise to much more suffering than its passage through the deeper tissues, including the peritoneum. Once more, I have on several occasions—three times—indeed, within the last six months—seen cases immediately after perforation of the bowel had taken place and noted that the marked symptoms had been immediate and very severe collapse without evidence of the instantaneous acute pain you speak of, nor have the patients after partial recovery from the collapsed condition complained much of early acute pain. With all this, I do not pretend to have hitherto given this subject the attention it certainly deserves or in a manner to justify my experience being of any value as evidence for or against."

Dr Christopher Martin writes "My opinion, based on the observation of nearly 1000 abdominal sections, is that the healthy human peritoneum is markedly sensitive and that the parietal is more so than the visceral. In the few instances in which I have been compelled to introduce my finger into the peritoneal cavity of a patient not anæsthetised there has been great suffering. For the satisfactory performance of an abdominal section very profound anæsthesia is necessary. Where the patient is only partially 'under' any intra-peritoneal manipulations excite unmistakable evidences of suffering the act of sponging the membrane being particularly painful. On the other hand, I am of opinion that peritoneum which is thickened chronically inflamed or diseased, or which has been exposed for some hours to the air, is nearly insensitive. In cases of inguinal colotomy (where the bowel is not at once opened) the exposed portion of the peritoneum quickly becomes thickened and loses its sensibility, and may be incised with knife or thermo-cautery without the slightest pain."

Dr Charles Martin writes "I have pleasure in replying to your letter of Dec 17th last. The opinion I have formed of the sensitiveness or otherwise of the human peritoneum, based largely on the observation of about 300 abdominal sections, is that it is very slightly, if at all, sensitive. True it is that, if a patient be not deeply anæsthetised, intra-abdominal manipulations may give rise to movements indicative of suffering, but I do not believe that stimulation of the peritoneum is the cause of that suffering, but that it is caused by the fingering of the abdominal wound or the manipulation of sensitive structures beneath the peritoneum. At the commencement of an operation, if the patient be insufficiently anæsthetised, movements are frequently occasioned by incision through the skin, but very rarely by division of the deeper structures, including the peritoneum. Similarly at the close of the operation, I have observed that, when the patient has been allowed 'to come out' prematurely, pain is occasioned by the insertion of the suture needle through the skin, but not by its passage through the peritoneum. Where perforated glass drainage-tubes are used, tags of omentum frequently insinuate themselves through the holes and become imprisoned, and I have on several occasions had to expose and divide these bands and change the drainage-tube, and no pain was occasioned that I could not ascribe to the necessary disturbance of the wound. I have seen two cases of hysterotomy, the wound in the uterus being closed by interrupted silkworm gut sutures, whose stiff ends projected above the smooth surface of the fundus into the peritoneal cavity in a bristling row. One of these patients, some months later, underwent the operation of vaginal hysterectomy for the cure of menstrual suffering, and the sutures were then seen to project as prominently as they did at the time of the first operation. The other case recovered completely and has since been free from pain. In neither case has there been any pain which I could reasonably ascribe to the mechanical irritation of the various peritoneal surfaces, against which the ends of the silkworm gut sutures must constantly have been rubbing. Again, it is a fact that exploratory abdominal sections, and even ovariectomies, have been performed without a general anæsthetic¹ after the mere injection of cocaine into the abdominal wall, and I have myself without any anæsthetic incised the abdominal wall, introduced my finger and explored the cavity without more pain than would be caused by the wound itself. It is difficult for me to conceive of such proceedings being possible were the peritoneum possessed of other than a very low degree of sensibility."

The Crescent Birmingham

THE RELATIONSHIP BETWEEN THE PHRENIC AND INFERIOR LARYNGEAL NERVE,

WITH AN EXPLANATION OF THE CIRCUITOUS COURSE
TAKEN BY THE LATTER.

BY THE LATE HERBERT DAVIES, M.D. CANTAB,
F.R.C.P. LOND.²

LATE CONSULTING PHYSICIAN TO THE LONDON HOSPITAL AND FORMERLY
FELLOW OF QUEEN'S COLLEGE, CAMBRIDGE.

I AM not aware that any explanation has yet been offered by physiologists to account for the circuitous course taken by the inferior or recurrent laryngeal nerve in the bodies of man and animals generally. The reason for its curiously winding and lengthened track, which contrasts with the direct path of the superior laryngeal nerve, may, however, I believe, be inferred from a study of the parts which the nerve supplies and the rationale of its destination will be found to exemplify that exact adaptation of means to ends which is invariably present in the animal economy. As the act of inspiration is mainly performed by the descent of the diaphragm and by the opening of the rima glottidis to admit the incoming air, it is clear that the respective muscular actions which cause the lowering of the one and the opening of the other must be synchronous for the lowering of the diaphragm without the simultaneous widening of the glottis would cause but a forcible and stridulous blast into the trachea and an imperfect supply of air to the lungs, while the dilatation of the rima previously to

¹ Not by me—L. TAIT.

² A posthumous paper communicated by his son, Arthur T. Davies, M.D. Cantab.

the commencement of the descent of the diaphragm would evidently lead to no useful result. If, then, this reasoning be admitted to be correct it must necessarily follow that the two mandates which simultaneously leave the respiratory nerve centre in the medulla to effect the simultaneous actions of the diaphragm and muscles of the rima must arrive at their respective destinations synchronously. The vagus centre is the regulator of the respiratory centre, which latter sends the mandates along the phrenic and recurrent laryngeal nerves for the purposes mentioned. Now the phrenic is a nerve of considerable length, arising, as usually stated, from the third and fourth and fifth cervical nerves. The group of nuclear cells however from which its force is derived is situated high up in the medulla, near the origin of the vagus and the paramount importance of its function to life is clearly shown in the circumstance that three distinct lines are at first provided for the transmission of the phrenic centre mandates to the great muscle of inspiration. These three lines are separate in the cervical region, where the action of the muscles of that region and the movements of the neck might disturb or interrupt the action of any single line of communication, while they ultimately become fused into one cord in the cavity of the chest, where interrupting influences cannot operate. Such, I believe, may be considered the cause of the mode in which the nerve originates as described. The security of the nerve is further shown in the fact that by piercing the muscle its filaments are distributed on the under surface of the diaphragm, where the weight of the contents of the thoracic cavity could not interfere with the transmission of nerve force. Now the recurrent laryngeal nerves are given off by their respective vags, the right winding round the subclavian artery, the left bending round the arch of the aorta, to reach their destinations in the peculiar lengthened course, for which some special reason must undoubtedly exist. The extraordinary length of these nerves is strikingly exemplified in such animals as the giraffe and the horse. They contain, as is well known, motor filaments for all the muscles of the larynx except the crico-thyroid, which is innervated by the only motor filament found in the superior laryngeal nerve. I shall afterwards refer to this fact in corroboration of the view which I am now seeking to establish. Of these intrinsic laryngeal nerves the crico-arytenoidæ postici by their contraction are alone engaged in opening the rima of the glottis by turning outwards the anterior angle of the arytenoid cartilages and throwing the space between the vocal cords into the shape of a rhomb of considerable size. These muscles, as already stated, are set in action by the long winding inferior laryngeal nerves. Now if it be conceded that the dilatation of the rima and descent of the diaphragm must be simultaneous, it must also be admitted that if the nerves which convey the motor impulses to the crico-arytenoidæ postici passed in a direct course to them, as in the track of the superior laryngeal nerve, the rima would begin to dilate before the diaphragm had commenced to expand the chest and the action of the base and apex of the respiratory cone would not have been synchronous. In a word, the unequal lengths of the supposed direct laryngeal and phrenic nerves would have prevented the occurrence of the synchronous action of the crico-arytenoidæ postici and diaphragm muscles. To remedy this state of things nature has with admirable simplicity rendered the nerves of equal or very nearly equal length by causing the laryngeal nerves to take their circuitous winding course, and in this way, by equalising the length of the phrenic and laryngeal nerves, to equalise the time taken in the transmission of motor impulses from the respiratory centre along their respective nerves to the diaphragm and muscles of the rima, so that when the chest is fully expanded by the complete descent of the diaphragm the rima has reached the largest development and the crico-arytenoidæ postici have contracted to their extreme degree, as expiration proceeds by relaxation of the diaphragm the vocal cords are brought into closer approximation by the crico-arytenoidæ laterales. It is manifest that the diaphragm and these muscles must act synchronously for it would be impossible for respiration to proceed regularly were the rima to open before the diaphragm descended, and still more were the diaphragm to be descending while the rima had not only ceased to open but had actually commenced to contract. If on the other hand, we examine the action of the muscles which are concerned in the production of phonation we observe that the vocal cords are rendered tense by the crico-thyroid muscle pulling the thyroid forwards and downwards on the cricoid cartilage and this tension is obtained

solely by the innervating power of the external branch of the superior laryngeal, the only motor filament contained in that nerve. This is a direct line for transmission of nerve force from the respiratory centre to the larynx. That this tension is of absolute importance to the formation of a laryngeal sound is shown by Louget's experiments. He says 'I have isolated and divided in dogs the nerve branches which exclusively innervate the crico-thyroid muscles and have immediately observed a remarkable hoarseness of the voice due to sudden relaxation of the cords and I have made the hoarseness to disappear by approximating by means of pincers the thyroid and cricoid cartilage.' It is clear that, as a first step in phonation, the vocal cords must be placed on the stretch, their points of insertion must be rendered fast and then, and not till then, can the varieties of note be produced by the various causes which act in affecting the varying tension of the cords. I repeat, the cords must be made fast and tight before they can be made to elicit distinct notes. If this view be granted it is evident that a motor impulse must be communicated to the crico-thyroid before the other laryngeal muscles are set in action. An objection might possibly be offered to this scheme of equalising the times of transmission along the phrenic and inferior laryngeal nerve from an idea that nerve force travels with such rapidity that, like electricity, distance such as a few feet or yards or even inches is not worthy of consideration, that, in fact, an impulse starting from the respiratory centre would reach the laryngeal muscles practically as quickly whether it took the direct course of the superior laryngeal nerve or the winding track of the inferior. Practical physiologists have, however, completely negated this view and have shown that the transmission of nerve force is by no means rapid and that its velocity contrasts wonderfully with the speed of the electric fluid, with which it has been by some writers considered identical. Thus Helmholtz tells us, as the result of his careful experiments, that nerve force travels at the rate of 110 feet per second, and we learn from Wheatstone that the electric fluid speeds with a flight of 283,000 miles per second. Now, if we compare the velocities of the two fluids we find—

$$\begin{array}{rcl} \text{Velocity of electricity} & = & 283,000 \text{ miles} \\ \text{Velocity of nerve force} & = & \frac{110 \text{ feet}}{1,520,640,000 \text{ feet}} \\ & = & \frac{110 \text{ feet}}{155,421,000 \text{ feet}} \end{array}$$

—i.e. the electric fluid travels at a rate nearly fourteen million times quicker than nerve force. In fact, if we remember that, in a man six feet in height, a motor impulse requires nearly one-twentieth of a second to travel from brain to his feet we cannot admit that nerve force possesses a great velocity and we may fairly concede that the lengthening of the inferior laryngeal nerve must also lengthen the time required for the impulse from the respiratory nerve centre to reach the crico-arytenoid muscles which dilate the rima glottidis. Again, the necessity of a synchronous action of the crico-arytenoidæ postici and the diaphragm might be doubted, but it is, I think, clear that these muscles are not in unison the inspiratory and expiratory movements might be conducted in such an irregular manner as to endanger life. Suppose, for instance, the rima commences to open some time after the diaphragm begins to draw air into the chest, a condition of breathing similar to what is found in laryngismus stridulus would ensue and death might result from the imperfect supply of air to the lungs. The importance therefore of a synchronous action of the crico-arytenoidæ postici muscles and the diaphragm is fully shown, and in order to obtain this result the phrenic and inferior laryngeal nerves are made to approximate, if not to equalise, in their lengths respectively and in this way is the circuitous winding course which the inferior laryngeal nerves are compelled to take satisfactorily explained.

BRITISH NURSES' ASSOCIATION — It has been decided to hold a Nursing Congress at Chicago in June next, and Mrs. Bedford Fenwick, 20 Upper Wimpole-street, has been requested to organise the British Section. We are informed that that lady will be prepared to receive papers on subjects connected with nursing written by trained nurses, and will submit them to the organising committee in America. Amongst the papers already promised will be one written by H. R. H. Pinner, Chairman of the Work of the Royal British Nurses' Association and another by Mrs. Bedford Fenwick on Home Hospitals.

TETANY AS A SEQUELA OF PUERPERAL ECLAMPSIA

By S. W. WHEATON, M.D., M.R.C.P. LOND., D.P.H.,
PHYSICIAN TO THE ROYAL HOSPITAL FOR CHILDREN AND WOMEN
WATERLOO ROAD S.E.

MRS. M—, aged twenty, primipara, was confined at 10.45 A.M. on March 2nd, 1890. The labour was not unduly prolonged, the presentation was of the vertex, the child (a male) was living and there was no undue loss of blood. Before labour the patient was noticed to be pale and complained of pain in the loins, but as there was no cedema anywhere the urine was not examined. Immediately after the expulsion of the placenta at 11 A.M. she was seized with convulsions. When I saw her for the first time at 3.15 P.M. thirteen attacks of general convulsions had occurred and she was lying in a comatose condition, with dilated pupils. The conjunctival reflex was absent, respiration was rapid and irregular and crepitations were heard at the bases of both lungs, the temperature was 100°, the pulse was 150, very feeble but incompressible. The secretion of urine was very scanty, a few drachms drawn off by catheter were solid with albumen and contained blood, blood casts, and only $\frac{1}{2}$ per cent. of urea on subsequent analysis. I at once applied wet cupping to both loins and removed half a pint of blood in this way. An eighth of a grain of hydrochlorate of pilocarpin was injected subcutaneously, and twenty grains of chloral and one drachm of bromide of potassium were given per rectum. At 3.45 P.M. another convulsion of a typical epileptic character occurred, preceded by a sighing sound, and, what was particularly noticeable, by marked contraction of the uterus, which could be felt to project forward and become hard under the hand placed upon the abdomen. At 4 P.M. wet cupping and the pilocarpin injection were repeated, from this time improvement commenced and profuse diaphoresis occurred. The next fit did not occur until 5.15 P.M., after which only three fits occurred until the next morning (March 3rd) at 4 A.M., when two occurred within a short time of one another. From this time they ceased altogether. At 10 A.M. she was still unconscious, but could swallow, the conjunctival reflex had returned and the temperature had risen to 103°. Dr. W. O. Priestley kindly saw her for me, and recommended liquor ammoniac acetatis (two drachms every two hours), which was given, as also were a purge and enema. Flurty ounces of urine were collected during the twenty-four hours of this day, containing 4 per cent. of urea and $\frac{1}{2}$ per cent. of albumen. The next day (March 4th) the patient continued unconscious and the temperature was continuously high at 102° to 103°. There were no signs of lung mischief, but a systolic murmur appeared at the apex of the heart and also at the left base, but without increase of dulness in the cardiac area. Thirty-nine ounces of urine were drawn off—March 5th. This morning, while still unconscious, she was noticed by the nurse to have spasmodic attacks of rigidity of the limbs. When seen two hours later she was lying on her back with the arms rigidly extended by her sides, the hands semiflexed at the wrist, the proximal joints of the fingers of both hands flexed and the two distal joints extended, the fingers were approximated and adducted as a whole and the thumbs were rigidly flexed into the palms. The legs were rigidly straightened out, the ankle joints were extended and the toes were adducted. The jaws were rigid, but not so much as to prevent the giving of food. Pressure on the limbs caused increased rigidity. This condition, which was thus typical of tetany, lasted for three days, at the end of which time it gradually disappeared, consciousness also returning slowly. The temperature, which had continued at 102° to 103°, became normal, and the urine increased in quantity to fifty-two ounces. There was complete loss of memory regarding the events preceding the fits, and for some time the patient would not believe that she had been confined. Secretion of milk was entirely absent, but the involution of the uterus proceeded normally. In three weeks convalescence was complete, there was only a trace of albumen in the urine and the cardiac murmurs had disappeared. Six months later the urine contained a trace of albumen. I have seen her twice since the last time three months ago and on each occasion albumen has been absent from the urine and there were no signs of increased arterial tension. She has not become pregnant again.

Tetany always occurs after some cause producing ex-

haustion or defective nutrition of the nervous system. Especially is this the case in the easily exhausted nervous system of children, in whom tetany is so common as the so-called "carpo pedal contractions." These contractions may follow convulsions, diarrhoea, teething or any exhausting cause. In adults tetany principally occurs in women, especially from the exhaustion of lactation or pregnancy under unhealthy surroundings, and also in connexion with hysteria as in a case reported by Dr. Gaiger.¹ Tetany may be regarded as the result of profound exhaustion or malnutrition of the higher motor centres of the cerebral cortex, in consequence of which the restraining influence is withdrawn from a lower stratum of cells, which are thus allowed to come into action without any regulation from higher centres. The normal action of this lower stratum of cells is to initiate movements corresponding to the typical attitudes of this disease, consequently when the higher control is withdrawn their uncontrolled action produces permanent contractures. In the case in point the exhaustion of the higher centres was due to the repeated convulsions, and its intensity was marked by the long period of unconsciousness and absence of voluntary movement, also by the persistent high temperature, which latter is also probably due to the unregulated action of lower heat-producing centres, owing to the exhaustion of higher controlling ones. That no organic lesions exist in tetany is proved by the fact that it may recur in the same subject again and again at intervals. The cardiac murmurs were undoubtedly due to anaemia, although at the time they gave rise to a suspicion of ulcerative endocarditis. This is frequently seen as the result of septicæmia after delivery, to which cases of eclampsia are particularly exposed owing to the failure of antiseptics in patients with convulsions and suffering from involuntary evacuations. Another point of interest is the increase in the amount of urine and urea which followed measures for the relief of kidney congestion. No treatment was ordered for the tetany except quinine and iron, it is essentially a symptom of defficientation of the nervous centres and requires a tonic treatment. Dr. Dakin has collected eight cases of tetany during pregnancy², they all occurred before delivery—not after, as in the present case—and one ended fatally.

Clapham-common, S.W.

A CASE OF TRAUMATIC ANEURYSM OF THE POPLITEAL ARTERY

LIGATURE OF ARTERY ABOVE AND BELOW THE WOUND,
FOLLOWED BY GANGRENE AND SECONDARY HÆMOR-
RHAGE, AMPUTATION, RECOVERY

By BRIGADE-SURGEON LIEUTENANT COLONEL
O. E. HARRISON, M.B. LOND., F.R.C.S. ENG.,
GRENADEIR GUARDS

A CORPORAL in the Grenadier Guards was admitted to the Guards Hospital on the evening of October 6th, 1890, with a small punctured wound in the upper third of the calf of the left leg. He stated that in climbing over some iron railings the pointed end of one of the railings had wounded the leg, that he had lost a good deal of blood at the time, and that an officer's servant, who was close by, assisted him into a cab and brought him to the hospital at once. On admission there was little or no bleeding, and on careful examination no evidence could be found that any large vessel was injured. The wound was dressed with carbolic lotion, and the man was ordered to remain in bed. Everything appeared to progress favourably until the 13th, when he stated that in the early morning he had felt his leg uncomfortable. On examining the leg distinct pulsation could be felt and seen over a small area immediately above the level of the wound. There was a little resistance to pressure with the fingers here but there was no marked swelling. The pulsation was completely controlled by pressure on the femoral artery at the groin. The man's urine was found to be free from albumen, but a marked hardness was observed in the radial arteries which could be traced far up the forearms. The opinion was formed that a small traumatic aneurysm existed and the limited

¹ THE LANCET Aug 20th 1887

² Obstetrical Society's Transactions vol xxxi p 163.

area and superficial character of the pulsation led to the hope that one of the muscular branches to the gastrocnemius had been wounded rather than the main artery of the limb. It was determined to make an exploratory incision with a view to tying the wounded vessel. A tourniquet having been placed over the femoral artery and an elastic bandage tied firmly round the limb above and below the knee, a probe was carefully introduced into the wound. No reliable information could be obtained by the probe as to the original course of the wound, but it passed rather deeply in an upward direction towards the centre of the popliteal space. An incision, which was subsequently enlarged so as to extend from four inches and a half to five inches, was made from the wound directly over the area of pulsation. The fascia having been divided, the fibres of the head of the gastrocnemius were carefully cut through and the popliteal vein exposed. The tourniquet and elastic bandages having been loosened, the condition of the artery was carefully examined with the finger—without separating it from the vein—both above the level of the gastrocnemius and where covered by the head of that muscle. No extravasated blood was seen, no hemorrhage occurred except a very trifling amount from the vessels divided at the time of the operation, and no abnormal condition of the main artery or its branches could be detected. It was not thought advisable to carry the dissection farther. A drainage-tube was placed in the lower angle of the wound, which was washed out with a weak solution of perchloride of mercury and closed with silver wire and silk sutures. Anti-septic dressings were applied and the knee was slightly flexed and placed on a splint. The temperature at night was normal. A morphia draught was given. On the following day (14th) the temperature was 99 in the morning and evening with a pulse of 84 and 88 respectively. On the 15th the wound was dressed and was looking healthy. There was a little oedema about the ankle and leg. The pulsation was found to be quite as marked as before the exploratory operation. In the evening Mr Howard Marsh kindly saw the patient. He did not consider it possible at that time to express a decided opinion as to the exact injury, but thought the evidence pointed to the wounding of an artery at the time of the accident or to a strain or bruising of the coats of the artery which had subsequently given way. He recommended that pressure should be applied to the femoral artery and the condition of the leg watched. The morning temperature was 99 and pulse 79. The evening temperature was normal. On the 16th the leg had been uneasy and a morphia draught had not secured a good night's rest. The wound looked healthy but there was more swelling on the inner and anterior aspect of the leg. Pulsation could be felt over a rather wider area. There was some discolouration—as from bruising—even as low as the ankle. The temperature was normal, the pulse 67. In the afternoon pressure was applied over the femoral artery by means of the fingers aided by a sandbag suspended by a cord passed over a pulley screwed into a beam in the ceiling, and this was varied by pressure applied by means of a Skey's tourniquet. The evening temperature was normal and the pulse 64. On the 18th the oedema was slowly decreasing but not so the pulsation. A thrill could be felt just on the outer side of the incision and a double bruit heard on auscultation over the area of pulsation. There was some increase of swelling on the inner surface of the calf in its upper part and pulsation was now felt here, and markedly so over the line of the incision. The evening temperature was raised one degree. The pressure was omitted during some part of the night. On the 21st the oedema of the limb was less. The pressure had been omitted during the last three nights but had been continued during the daytime. On the 23rd a continuous thrill, occupying the dilatation and subsidence of the arterial pulse, could be felt on lightly touching the skin over a limited area just to the outer side of the scar left by the incision. Pulsation was marked over the centre of the scar, and could be felt less distinctly up to the posterior border of the tibia on the inner side of the calf. A loud, prolonged, almost continuous musical bruit was audible over the area of pulsation. Pressure had been omitted on the 21st, but resumed after midday on the 22nd. Mr Marsh again kindly saw the patient and it was determined to try the effect of pressure applied to the limb by means of a perforated Martin's bandage, the foot being kept well raised. It was thought that the local signs indicated the presence of a varicose aneurysm of the posterior tibial or of the popliteal artery just before its division. On the 30th little or no change in the condition of the leg had taken place except that the oedema of the limb had been

reduced by the bandage. The temperature and pulse were favourable. On Nov 3rd the aneurysm appeared fuller and tenser. On the 7th it was felt that some operative interference should be resorted to in order to prevent the risk of rupture of the aneurysm and consequent extravasation into the limb. The aneurysm felt tenser, and the area of pulsation was slowly extending. Mr Marsh kindly came to the hospital and gave his valuable assistance and advice in the operation. The limb having been raised and an Esmarch's round elastic bandage applied just below the centre of the thigh, an incision was made commencing a little to the inner side of the middle of the popliteal space and continued downwards over the gastrocnemius for about five inches. After carefully cutting through the gastrocnemius and ligaturing those branches of the sural arteries which were divided, a very thin walled sac was exposed evidently the sac of the aneurysm. It was thought advisable to expose and ligature the artery above and below the sac. The incision having been extended a little upwards, the tissues were dissected through until the popliteal artery was exposed above the upper boundary of the sac, about the level of the centre of the popliteal space. A double ligature of silk thread which had previously been boiled in carbolic solution, was applied and the artery cut through between the two ligatures. The dissection was then continued over the lower end of the sac, the cutaneous incision being extended to the centre of the calf. The upper border of the soleus muscle was exposed, forming the lower boundary of the aneurysmal sac. The fibres of the soleus just below its origin were therefore carefully divided until the posterior tibial nerve was exposed, when the posterior tibial artery was readily found and ligatured. The aneurysmal sac was then incised and opened up nearly to its full extent with scissors. It was then seen that the popliteal vessels had been pushed towards the outer side of the limb by the aneurysm and, after the blood and blood clot had mostly been removed a round opening, the size of a millet seed, was found on the inner side of the popliteal artery, communicating directly with the sac of the aneurysm about the centre of its outer side. The artery was ligatured above and below this opening in its walls. The aneurysm had extended deeply in the direction of the interosseous membrane as well as towards the surface of the calf. The Esmarch's bandage having been loosened, the bleeding points were secured. Some dense portions of the clot which were adherent rather firmly to the sac were left *in situ*. There was a little oozing from the upper extremity of the sac which it was found difficult to arrest. The wound and interior of the sac were sponged out with perchloride of mercury solution, a drainage-tube was inserted into the lower angle of the wound and the part dusted over with iodoform. The wound which was about nine inches long, was closed with silver wire sutures, and lint moistened with perchloride of mercury solution was applied to the surface. A piece of protective was placed over this and iodoform wool added to cover the whole. A poroplastic back splint was placed behind the knee and the limb enveloped in cotton wool. The patient was very chilled after the operation. Hot water bottles were placed in the bed. In the evening the temperature was 101.2° and pulse 120. He felt fairly comfortable. The toes of the left foot were cold, there was some slight degree of warmth on the upper surface of the foot. On the 8th the temperature was 102.8°, the pulse 128. He had passed a restless night in consequence of pain of a burning character in the calf and in the toes which opium had not relieved. The evening temperature was 104.2° and the pulse 150. The next day the wound was dressed. There had been considerable oozing of blood stained fluid into the dressings. There was a little fulness to the inner side of the lower part of the wound, which was otherwise looking well. The drainage-tube was syringed out with perchloride solution and the wound dressed as before. There was staining of the front of the foot and lower part of the front of the leg from extravasation of blood into the superficial part of the skin. The temperature was 103.6°, the pulse 139. The man's aspect was good, and he had passed a fair night. The evening temperature was 104.2°, and the pulse 141. On the 10th some blood stained fluid had during the night soaked through the lower part of the dressings, and on dressing the wound a gangrenous odour was very marked. The upper part of the foot was rather dusky and mottled—the toes were chilly and the dorsum of the foot and leg were warm. A large bulla—containing dark, blood stained fluid—had formed over a considerable area of the lower and inner part of the left leg. The leg up to the knee was infiltrated

TETANY AS A SEQUELA OF PUERPERAL ECLAMPSIA

By S W WHEATON, M D, M R C P LOND, D P H,
PHYSICIAN TO THE ROYAL HOSPITAL FOR CHILDREN AND WOMEN
WATERLOO ROAD, S E.

Mrs. M— aged twenty, primipara, was confined at 10 45 A.M. on March 2nd, 1890. The labour was not unduly prolonged, the presentation was of the vertex, the child (a male) was living and there was no undue loss of blood. Before labour the patient was noticed to be pale and complained of pain in the loins, but as there was no oedema anywhere the urine was not examined. Immediately after the expulsion of the placenta at 11 A.M. she was seized with convulsions. When I saw her for the first time at 3 15 P.M. thirteen attacks of general convulsions had occurred and she was lying in a comatose condition, with dilated pupils. The conjunctival reflex was absent, respiration was rapid and irregular and crepitations were heard at the bases of both lungs, the temperature was 100°, the pulse was 150, very feeble but incompressible. The secretion of urine was very scanty, a few drachms drawn off by catheter were solid with albumen and contained blood, blood casts, and only $\frac{1}{2}$ per cent of urea on subsequent analysis. I at once applied wet cupping to both loins and removed half a pint of blood in this way. An eighth of a grain of hydrochlorate of pilocarpin was injected subcutaneously, and twenty grains of chloral and one drachm of bromide of potassium were given per rectum. At 3 45 P.M. another convulsion of a typical epileptic character occurred, preceded by a sighing sound, and, what was particularly noticeable, by marked contraction of the uterus, which could be felt to project forward and become hard under the hand placed upon the abdomen. At 4 P.M. wet cupping and the pilocarpin injection were repeated, from this time improvement commenced and profuse diaphoresis occurred. The next fit did not occur until 5 15 P.M., after which only three fits occurred until the next morning (March 3rd) at 4 A.M., when two occurred within a short time of one another. From this time they ceased altogether. At 10 A.M. she was still unconscious, but could swallow, the conjunctival reflex had returned and the temperature had risen to 103°. Dr W O Priestley kindly saw her for me and recommended liquor ammoniac acetatis (two drachms every two hours), which was given, as also were a purge and enema. Thirty ounces of urine were collected during the twenty-four hours of this day, containing 4 per cent of urea and $\frac{1}{2}$ per cent of albumen. The next day (March 4th) the patient continued unconscious and the temperature was continuously high at 102° to 103°. There were no signs of lung mischief but a systolic murmur appeared at the apex of the heart and also at the left base, but without increase of dullness in the cardiac area. Thirty-nine ounces of urine were drawn off.—March 5th. This morning, while still unconscious, she was noticed by the nurse to have spasmodic attacks of rigidity of the limbs. When seen two hours later she was lying on her back with the arms rigidly extended by her sides, the hands semiflexed at the wrist, the proximal joints of the fingers of both hands flexed and the two distal joints extended, the fingers were approximated and adducted as a whole and the thumbs were rigidly flexed into the palms. The legs were rigidly straightened out, the ankle joints were extended and the toes were adducted. The jaws were rigid, but not so much as to prevent the giving of food. Pressure on the limbs caused increased rigidity. This condition, which was thus typical of tetany, lasted for three days, at the end of which time it gradually disappeared, consciousness also returning slowly. The temperature, which had continued at 102° to 103°, became normal, and the urine increased in quantity to fifty-two ounces. There was complete loss of memory regarding the events preceding the fits, and for some time the patient would not believe that she had been confined. Secretion of milk was entirely absent but the involution of the uterus proceeded normally. In three weeks convalescence was complete there was only a trace of albumen in the urine and the cardiac murmurs had disappeared. Six months later the urine contained a trace of albumen. I have seen her twice since, the last time three months ago and on each occasion albumen has been absent from the urine and there were no signs of increased arterial tension. She has not become pregnant again.

Tetany always occurs after some cause producing ex-

haustion or defective nutrition of the nervous system. Especially is this the case in the easily exhausted nervous system of children, in whom tetany is so common as the so called "carpo pedal contractions". These contractions may follow convulsions, diarrhoea, teething or any exhausting cause. In adults tetany principally occurs in women, especially from the exhaustion of lactation or pregnancy under unhealthy surroundings, and also in connexion with hysteria as in a case reported by Dr Criger.¹ Tetany may be regarded as the result of profound exhaustion or malnutrition of the higher motor centres of the cerebral cortex, in consequence of which the restraining influence is withdrawn from a lower stratum of cells, which are thus allowed to come into action without any regulation from higher centres. The normal action of this lower stratum of cells is to initiate movements corresponding to the typical attitudes of this disease, consequently when the higher control is withdrawn their uncontrolled action produces permanent contractures. In the case in point the exhaustion of the higher centres was due to the repeated convulsions, and its intensity was marked by the long period of unconsciousness and absence of voluntary movement, also by the persistent high temperature, which latter is also probably due to the unregulated action of lower heat-producing centres, owing to the exhaustion of higher controlling ones. That no organic lesions exist in tetany is proved by the fact that it may recur in the same subject again and again at intervals. The cardiac murmurs were undoubtedly due to anaemia, although at the time they gave rise to a suspicion of ulcerative endocarditis. This is frequently seen as the result of septicæmia after delivery, to which cases of eclampsia are particularly exposed owing to the failure of antiseptics in patients with convulsions and suffering from involuntary evacuations. Another point of interest is the increase in the amount of urine and urea which followed measures for the relief of kidney congestion. No treatment was ordered for the tetany except quinine and iron, it is essentially a symptom of deficient action of the nervous centres and requires a tonic treatment. Dr Dakin has collected eight cases of tetany during pregnancy², they all occurred before delivery—not after, as in the present case—and one ended fatally.

Clapham-common S W

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LIGATURE OF ARTERY ABOVE AND BELOW THE WOUND,
FOLLOWED BY GANGRENE AND SECONDARY HÆMO-
RHAGE, AMPUTATION, RECOVERY

By BRIGADE-SURGEON LIEUTENANT COLONEL
C E HARRISON, M B LOND, F R C S ENG,
GRENADIER GUARDS

A CORPORAL in the Grenadier Guards was admitted to the Guards Hospital on the evening of October 6th, 1890, with a small punctured wound in the upper third of the calf of the left leg. He stated that in climbing over some iron railings the pointed end of one of the railings had wounded the leg, that he had lost a good deal of blood at the time, and that an officer's servant, who was close by, assisted him into a cab and brought him to the hospital at once. On admission there was little or no bleeding, and on careful examination no evidence could be found that any large vessel was injured. The wound was dressed with carbolic lotion, and the man was ordered to remain in bed. Everything appeared to progress favourably until the 13th when he stated that in the early morning he had felt his leg uncomfortable. On examining the leg distinct pulsation could be felt and seen over a small area immediately above the level of the wound. There was a little resistance to pressure with the fingers here, but there was no marked swelling. The pulsation was completely controlled by pressure on the femoral artery at the groin. The man's urine was found to be free from albumen, but a marked hardness was observed in the radial arteries which could be traced far up the forearms. The opinion was formed that a small traumatic aneurysm existed and the limited

with oedema, and in places there was a blush on the surface of the skin. A dirty, foul smelling discharge had come from the wound. The temperature was 103.6° and the pulse 125. The advisability of amputating the limb above the knee was discussed, but, although the man's aspect was good, it was considered that the temperature and pulse were not favourable for immediate amputation. Mr. Marsh kindly saw the man and recommended that some of the sutures should be removed, the wound freely irrigated and the limb put up in boracic poultices covered with protective and wool. On the 12th the temperature was 101.4°, the pulse 113. There was less redness of the leg below the wound, which was in a sloughy condition. The wound was irrigated three times during the day with carbolic lotion (1 in 80) with a little tincture of iodine. The patient was taking food very fairly, with four ounces of brandy, and two grains of quinine three times a day. The evening temperature was 103.2° and the pulse 114. The opium was continued at night. On the 16th the temperature had fallen to 98.7° and the pulse to 96. The evening temperature was 100.8° and the pulse 104. On the 17th the wound was looking healthier, but there was a large patch of gangrenous skin and subcutaneous tissue extending over nearly the lower half of the inner side of the leg, and passing round the back and a portion of the outer side. The toes were becoming mummified, and the condition of the foot gave rise to anxiety. The superficial parts on the inner side of the heel were dead, and there was some duskeness with oedema of the dorsum with little or no sensation from just below the ankle in front. The irrigation was continued, a charcoal poultice applied to the lower part of the leg and the brandy increased to six ounces. On the 20th the temperature was 99.6° and the pulse 98. A considerable portion of the soft tissues of the leg and foot was evidently dead, including the greater part of the gastrocnemius and soleus. Mr. Marsh saw the patient, and it was decided to wait and watch from day to day in the hope that the structures of the upper part of the leg would sufficiently recover to justify amputation below the knee. In the event of secondary hæmorrhage occurring it was decided that the limb should be amputated at once. On the 21st secondary hæmorrhage occurred at midday from a point deeply situated in the upper angle of the wound, this being the fifteenth day since the ligatures were applied. The femoral artery was compressed with the fingers and preparation made at once to amputate above the knee. Chloroform having been administered, the limb was removed, anterior and posterior skin flaps being made with circular incision through the muscles. Surgeon Major Magill, Coldstream Guards, kindly assisted me. A very marked collapse followed, but the patient rallied satisfactorily. The cut surface of the stump was freely washed with perchloride of mercury solution and dressed with strips of gauze moistened with this solution, iodoform having been previously dusted over the skin and edges of the flaps. Catgut ligatures were used and the stump enveloped in sal alembroth wool.

On examining the leg which had been amputated the site from which the hæmorrhage had come appeared to be the point at which the highest ligature had been placed on the popliteal artery. The ligature was almost completely detached and the proximal end of the artery on its inner side looked eroded. There was no evidence of organised clot in this part of the artery. The superior external articular artery was given off a little above this level. The ligature on the popliteal artery immediately below the point where the artery had been cut through after being ligatured was still firmly attached. The walls of the artery in contact with what had been the sac of the aneurysm were partially disorganised. The ligature on the posterior tibial artery was still firmly attached, with a clot above and below. The anterior tibial artery was given off a short distance above this ligature. All the muscles on the back of the leg below the lines of demarcation were in a state of gangrene and in the lower part of the leg the bones were denuded of periosteum. The muscles of the sole of the foot were gangrenous and the tissues on the dorsum were becoming so. The patient made a rather slow but a very satisfactory recovery, and was eventually discharged from the service on July 3rd, 1891, with a very useful stump and wearing an artificial limb.

Remarks.—The nature and rarity of the accident in this case render it one of considerable interest. Anxiety as to the best method of treating the case was occasioned by the fact that the physical signs and symptoms left great doubt as to whether the artery alone was wounded or whether a wound of both the artery and the vein had led to a communication between those vessels and the formation of a

varicose aneurysm. Under these circumstances it was determined to try the effect of pressure, and, if this failed, to cut down upon the vessels at the seat of injury rather than to apply a ligature higher up. A case in which the symptoms were almost identical with those in the present instance, and in which Mr. Thomas Smith was successful in effecting a cure by means of pressure applied to the limb by a Martin's bandage, led me to hope that a similar good result would be attained in this case. A cure, however, by these means was not attained. The occurrence of sepsis, notwithstanding the care which was taken to prevent this result, must probably be explained by the extent and nature of the wound, which rendered aseptic treatment difficult under the circumstances. The published cases of traumatic aneurysm of the popliteal artery appear to be few in number.

Rechester row, S.W.

A CASE OF INFLUENZA WITH INTERESTING SEQUELÆ

By LOUIS E. STEVENSON, M.B., B.C. Cantab.,
LATE HOUSE SURGEON TO THE CUMBERLAND INFIRMARY, CARLISLE.

THIS case occurred in the practice of my friend, Dr. Stewart Lockie of Carlisle, and to him I am indebted for the following notes. The case had a fatal termination, and at Dr. Lockie's request I conducted the necropsy with him.

A housekeeper aged fifty-seven first came under Dr. Lockie's care on Jan. 25th, 1890. Before this date her health had been impaired for some months and she particularly suffered from occasional abdominal pain. On Jan. 13th she was seized with a mild attack of influenza, then epidemic in the city. She was convalescent from this and was doing fairly well, but on Jan. 24th she was attacked with severe pain in the abdomen, referred to the hypochondriac, umbilical and epigastric regions. When Dr. Lockie saw her on the 25th the abdomen was soft, there was a degree of tenderness on pressure, the abdominal muscles moved on respiration, and the pain was not increased on coughing, there was no vomiting, the bowels had been regular, pulse-rate and temperature were normal. A mixture containing sulphate of magnesia and Dover's powder was ordered. On the 27th there had been some vomiting, the bowels had been moved repeatedly and the stools were loose. The pain was unrelieved and had extended low down in the umbilical region and to both lumbar regions. Tenderness was present, but no tumidity. The abdominal muscles still moved on respiration. On the 28th there was less pain, but on the following day it became much worse and there was some tumidity. There was abdominal tenderness, especially in the right lumbar region, vomiting had ceased. Opium, which had been given at the beginning, was now freely administered with some relief. On the 30th and 31st the patient was easier, but the temperature rose to 100° and the pulse had quickened. Tenderness was now most marked in the left iliac region. In the evening of the 31st it was noticed that the pulse in the right wrist was much more feeble than in the left, only some beats could be felt in the former, whilst in the latter there was a fair regular pulse of 120. The patient said that for two days the right arm had been slightly numb. At midnight the arm became very painful, cold and apparently bloodless as far as the elbow. At 3 A.M. on Feb. 1st no pulse could be felt in the right superior extremity below the axilla, the forearm and hand were cold and somewhat shrivelled, and the hand livid, sensibility was abolished below a line one inch above the wrist. Opium was still more freely administered, and with relief. At this time the pain in the abdomen was less and the tenderness was confined to the left iliac region. There was regurgitation from the stomach, but no actual vomiting. Later on the same day a copious loose stool was passed in which were some specks of blood and shreds of mucus. On the morning of the 2nd the condition was practically unchanged, but the pulse had disappeared in the axilla. On this day the patient had another copious loose evacuation, but it contained no blood. On the evening of the 2nd a great change for the worse took place. The face was pinched, the extremities were cold, respiration laboured and the pulse had risen to 144 being very feeble. Death took place on the 3rd, at 1.30 P.M.

The necropsy, which was conducted on the 4th, revealed the following interesting pathological conditions. The abdominal cavity contained a small quantity of black, blood stained fluid,

pneumothorax we cannot expect relief in cases in which the increasing pressure within the chest is not greater than that of the atmosphere. This statement is also borne out in the reports of Dr. Sutherland of the North London Hospital for Consumption. Where tuberculous matter becomes deposited on the parietal pleural surface agglutination may take place between it and the pulmonary surface, with the result that the adhesion between the visceral and the costal layers may save the tuberculous patient from a pneumothorax. This *vis medicatrix nature* is often exerted, and in a like manner a pneumothorax once formed may retard the phthisical process by giving rest to the diseased lung through compression. In such a case the therapeutic effect of the pneumothorax may be effective in benefiting the phthisical patient for a short period. It might be supposed that individuals whose lungs are greatly reduced by the subsequent contraction of the chest would necessarily be reduced to a frail state of health and low scale of bodily strength, yet, curiously enough, some persons can follow the active pursuits of life, as instanced in Case 1. Laennec mentions the case of a distinguished Paris surgeon who, although he had one side contracted in a marked degree from empyema, yet enjoyed the best of health and lectured to his students twice daily. A similar case came under my observation in Bedfordshire, the subject of which is now getting his living as a flautist.

Shakespeare-villas, Nottingham.

REPORT ON

AN OUTBREAK OF ENTERIC FEVER IN
WARDS 3, 4 AND 5 OF THE BOROUGH
OF LEICESTER

By J. PRIESTLEY, B.A. LOND., M.D. EDIN., D.P.H. CAMB.,
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FROM January to April of last year there were two cases of enteric fever notified as having occurred in Wards 3, 4 and 5 of the Borough of Leicester. Since then twenty cases have been reported—viz., three in May, four in June, five in July, five in August and three in September. All these I have succeeded in tracing directly or indirectly to the consumption of herb beer infected, in my opinion, with enteric fever contagium.

The first case was that of F. M., in B— street, a fire-roomed house. He was notified as suffering from enteric fever on May 7th, and on investigation it was found that he had been ill for eleven days. The child was lying on an improvised bed in a back room, where he had lain for that time, the front room being used as a shop, where provisions, herb beer &c. were sold. The back room was in use as a living room for the whole family, consisting of Mr. and Mrs. M., seven children and the grandfather. At the time of the inspector's visit Mrs. M. was engaged in brewing the herb beer in the room where the child suffering from enteric fever was lying. A punchbowl containing a few gallons of herb beer was standing in the room without a cover and in the act of being fermented with yeast. An iron pot containing boiling herbs was on the fire. The mother was cautioned by the inspector as to the danger she was incurring by brewing herb beer in a room in which a fever patient was lying, and the child was some days afterwards (May 20th) removed to the infirmary, but no further action was taken, as this was the time during which there was no medical officer of health in Leicester, my predecessor having died.

Since this case nineteen others suffering from enteric fever have been notified, and on making strict inquiries and close investigations as to drainage defects and milk and water supplies at the houses in which the cases occurred, I was satisfied that the facts that were brought out were not sufficient to account for all the cases, or even for the majority. I was accordingly led to look further, and a fact that attracted my attention was the 'good trade' that was being done in the sale of herb beer from the very shop in the back room of which the child (F. M.) had been found by the inspector to be suffering from enteric fever and where the herb beer was actually made. Starting from B— street as a centre I succeeded in tracing the herb beer definitely to nine and indefinitely to six of the houses where enteric

fever had been notified as having occurred. In only five out of the twenty cases was I unable to get a history of herb beer having been drunk. I may explain that in using the word "definitely" I mean the history was distinct and the case proved conclusively—e.g., "gift" tickets given away to purchasers of the herb beer were shown &c., whereas in those cases I have described as "indefinitely" traced, I mean that the evidence of herb beer drinking was distinct, but it could not be traced to B— street. Considering, however, that the houses were in the neighbourhood and that young people are apt to spend their pennies without being able to tell exactly a little while after where they spent them, we may reasonably suppose that some of the indefinite cases may also have partaken of the infected beer. Then, again, I was able to trace the fact that one other shop dealing in herb beer had on emergency replenished its supply temporarily from B— street, so that we may conclude that of the twenty cases fifteen had a history more or less definite of having partaken of the infected beer. I am by no means satisfied in my own mind that the remaining five cases had not also partaken of it, but from a statistical standpoint I am sorry I have been unable to prove this conclusively.

I may mention here that several cases of illness which the medical men in attendance have not felt justified in notifying as enteric fever but which they have admitted were of a distinctly enteric type have come to my knowledge. The important bearing of this must be evident when I say that I myself, as medical officer of health without private practice, have seen ten such cases lately.

An interesting though tragic episode in the epidemic deserves mention. On Aug. 8th Mr. M. (the mother) who brewed the herb beer was notified as suffering from enteric fever. She had been ailing off and on for fourteen days previously, and on July 25th she, with her husband and family removed to M— street, taking with them six bottles of herb beer which they had in stock from B— street. Mrs. M. was finally removed to the infirmary on Aug. 12th and died there on the 27th. I have succeeded in tracing the six stock bottles that were taken from B— street to M— street, two of them having been sold to a Mrs. B., who at present is in good health, and the other four having been drunk by the M.'s themselves, of whom another has since been notified as suffering from enteric fever (Aug. 26th). Indeed, of the M. family mentioned above the grandfather has alone escaped, while four have had enteric fever (one dying) and the remaining five have suffered more or less from pseudo-enteric symptoms—e.g., purging, low fever, depression &c. The grandfather's escape is explicable by his age.

The ill-fated house in B— street was left by the M.'s on July 25th and taken on the same day by a family named B.— who have brewed and sold other herb beer since. There is no illness in the house now, and the M.'s' stock has been removed, not a single bottle remaining in B— street.

With a child lying ill [of enteric fever] in a room where the mother was brewing herb beer it is not very difficult to understand how the mother's hands may have conveyed the germs from the patient into the beer. I need not, I think, however, go so far as this. It is sufficient for my purpose to know that the herb beer when brewed stood uncovered for hours in a room in which a child was lying ill of enteric fever, with a chamber utensil (probably containing typhoid stools) on the ground.

The medical histories of the cases are very definite. Taking the first case in B— street as the infecting centre, and remembering that the child was lying ill in the back room from about May 1st until the 20th—when he was removed to the infirmary—we can understand how the beer brewed during that period was contaminated.

Though the sewage of this particular area is not perfect, there is nothing specially calling for remark, whilst other areas of the town (where the sewerage is worse) show a clean bill as regards enteric fever. Then, again, all the houses affected do not drain into one separate system and the sanitary arrangements are all external. The sinks in all cases were disconnected from the main drainage. All the houses were supplied with the Corporation water, which at that time was good.

Inquiry into the milk supply of the various houses infected gave negative results, though it is a strange coincidence that one particular milkman supplied nine out of the twenty cases. Careful investigations in this direction however showed nothing amiss. I was thus driven to look elsewhere, and I

the fourth interspace, heart in mid sternal line, no epigastric pulsation. Temperature 99°, respiration 18, pulse 80—19th Patient is improving, it was hoped that the withdrawal of the greater quantity of fluid would tend to complete absorption by relieving the overstrained lymphatics—20th The symptoms are the same as yesterday 21st Fluid had reaccumulated and cardiac impulse was again seen in para sternal line, and the symptoms were those of the 17th inst save that the temperature to day was 103°, respiration 28, pulse 100 She had a severe rigor in the night and has been sweating this morning, the sweating being colliquative in character. An egophonic sound is heard at the angle of the left scapula, this sound may be more correctly described as being markedly nasal and continuous, instead of bleating, depending probably upon the interception (by exudation) of the fundamental vowel tone and the passage of harmonic overtones—22nd Cardiac asthenia present. Paracentesis thoracis resorted to and 40 oz. of fluid (turbid) slowly withdrawn, after which the patient improved until the 25th inst., when the following notes were taken. "Improved on the whole, but still complains of pain in the left side, which is now quite immovable. Temperature 101°, pulse 80, respiration 20 Percussion note dull below the third rib, tactile fremitus obtained only above its upper border. Below these points breathing is distinctly amphoric. Heart still displaced"—26th Left side seems much more enlarged and rounded than hitherto and movements are absent. Bell sound is plainly elicited. Dulness extending from the lower border of the third rib is distinctly movable, this is seen if she turns on her back or right side, the percussion note in the axilla being hyper resonant.—27th To day, from the third to the sixth interspace in the mid axillary line, a distinct pulsation or heaving is noticed, the thoracic parietes receiving a marked impulse, synchronous with the ictus cordis, and also systolic in time with the cardiac impulse, which is now defined in the fourth right interspace external to the junction of the cartilages with the sternum. The hand when placed on the side is forcibly lifted at each pulsation.—28th Patient lies in the left lateral decubitus, and in this position the impulse of the heart can be felt in the fourth right space, the pulsations in the left mammary region being plainer to day. Bell sounds very distinct. Succussion absent.—29th Signs similar. Systolic impulse on the left side can be seen at the other end of the room ten feet away. Resonant note is obtained to the upper border of the third rib, from the third to the fifth it is tympanitic and below this point dull. Temperature 101°, pulse 80, respiration 20. Distinct amphoric breathing under the axilla. A needle was introduced and a few drops of pus withdrawn, after which ten ounces of pus were removed from below the inferior angle of the left scapula and a drainage-tube inserted—30th 31st The patient is improving. Temperature 99°—June 1st, 2nd Flattening has taken place in the interspaces and the note is tympanitic from the fourth to the seventh. The patient expresses herself as feeling better than she has all along—4th The discharge is very slight, tube removed, a No 2 (catheter size) introduced. Temperature, pulse and respiration normal. Normal breath sounds over the right lung—7th There being no discharge, the drainage-tube was withdrawn—30th Sinus has healed. Relatives state that the patient looks better than she did before the accident occurred. The chest is still much flattened, the heart now beats to the left of the sternum, but the impulse and first sound are felt and heard in a line one and a quarter inches to the right of the left nipple.

The patient was seen in a month after I discharged her. The notes made were that "although there was considerable flattening of the left parietes there were loud and breezy sounds heard down to the fourth interspace, below this they were somewhat feeble."

Remarks—The special features in this case are the patient's descriptive account of her sensation of something having given way, the remarkably rapid and copious effusion and the intense agony on palpation or even application of stethoscope. From these special features I am led to believe that it was a pneumothorax from the first and that it is one of those interesting cases recorded in the Clinical Society's Transactions by Drs West, De Havilland Hall and Osler. A pneumothorax cannot always be diagnosed at first, for it is well known that the percussion note may be dull when the tension of the thoracic wall is too great, such as it may have been in this case, and, on the other hand, there must be a certain degree of tension in the walls of the cavity to make them good reflecting surfaces, and if this tension be deficient at the spot of the cavity opposite the place where the stethoscope is applied

the tinkling sounds may be absorbed and not reflected. Careful studies of pulsating pleurisies were first recorded in 1844 by Dr Macdonnell,⁴ Professor of Clinical Medicine in McGill University, Montreal, who at that time was clinical assistant to the renowned Graves and Stokes of the Merth Hospital. Coomby states that of thirteen cases nine died,⁵ and in Kepler's practice out of thirty eight cases seventeen died.⁶ Two groups of cases are recognised—viz., the intra pleural and empyema, in which there is an external pulsating tumour. The latter usually occurs in cases in which the fluid has existed for some time, but that it does occur in acute cases, even with serous exudation, is verified in the cases reported by Dr Osler of Pennsylvania.⁷ Various suggestions for the phenomenon are put forward, one being that it occurs when adhesions exist between the layers of the pericardium and between the latter and the chest wall,⁸ but in the report of some post-mortem examinations such adhesions were not found. Bouveret, in his recent monograph, holds that pulsation is met with whenever the resistance of the thoracic wall is greatly reduced, and Traube inclines to this belief. The indications for treatment seem to be, as in this case, complete evacuation and permanent drainage.

CASE 2.—W H P—, aged twenty six, clerk, who has been treated for pulmonary phthisis and whose family history is bad, sent an urgent message to me on May 18th, stating that "he had wrenched his inside" by assisting a dayman to "trestle a cask." He was in a prostrate condition when I arrived, vomiting and sweating profusely. Temperature 104.4°, pulse 130, thready. The pains in this instance were referred to the left side, which was fixed. A highly resonant note was obtainable over the front and side. Vocal resonance and vocal fremitus were absent. A sixth of a grain of morphia was given hypodermically and repeated in three hours, and the patient was enjoined to swallow a couple of teaspoonfuls of pale brandy in a little water. I resorted to fixation of the side by means of strapping, and this relieved the patient in no little degree—May 19th Patient expectorated some blood stained and mucoid sputum. Temperature 103°, pulse 130. Patient too ill and pain too great to localise the position of the heart—20th Signs of great intra thoracic pressure evident. Pulse very small, feeble, and rapid. Patient insists upon being allowed to stand or sit upright. Evening temperature 104°, pulse 140, left side distending, bell sounds well marked. The chest was punctured. A modification of Dieulafoy's aspirator was used, the contained air in the receiving bottle having been thoroughly exhausted, a quantity of gas was drawn off with about one ounce of fluid slightly streaked with blood. The heart moved to its original position—21st Patient improved, temperature 101°, pulse 120, respiration 28. Patient was not disturbed to examine the chest—22nd Expansion again evident, amphoric breathing with tinkling rales, and fluid has formed in the left pleura. Temperature 101°, pulse 120. There being no cyanosis or cardiac asthenia, tapping was deferred—23rd, 24th, 25th Symptoms and physical signs are the same as those of the 22nd—26th Symptoms became urgent and paracentesis was resorted to. A quantity of air came away and twelve ounces of fluid. From this date he improved, and in five weeks he was able to attend the surgery, when examination showed that the breath sounds, although weak, could be distinctly heard back and front. After this the patient went south and I saw no more of him.

Remarks—When a pneumothorax terminates in recovery the aperture in the lung must have healed and the gases been absorbed. As this takes place the pulmonary tissue is reinflated simultaneously, but recovery, at any rate partial, takes place most often in those cases which are circumscribed. The treatment of pneumothorax by aspiration is not advised by the leading authorities. Professor Gardner advocates puncture.⁹ Dr Clifford Beale thinks it is unadvisable to meddle with the chest unless the danger to life is immediate.¹⁰ Dr Douglas Powell advocates the introduction of the trocar when there are signs of pressure within the thorax,¹¹ but Dr Wilson Fox believes that it causes secondary effusion.¹² If the use of the trocar be accepted as the final treatment of the cardio asthenia of

⁴ Dublin Journal of the Medical Sciences, 1844

⁵ Archives G n rales, 1883

⁶ Deutsches Archiv f r Klinik, 1880.

⁷ International Journal of the Medical Sciences, November 1883.

⁸ Broadbent. THE LANCET, May 24th and 31st, 1884

⁹ THE LANCET, July 2nd 1892.

¹⁰ Kingston Fowler. Dictionary of Medicine p 651.

¹¹ Powell. Diseases of the Lungs p 142.

¹² Fox. Diseases of the Pleura p 1118.

ing a further collection of pus we explored again under chloroform and found pus at the bottom of the first sinus in a large cavity. A counter-opening was made in the back two full sizes and rubber drainage-tubes were passed from the front openings through it and the cavity was irrigated. The patient never really rallied and died on Nov. 9th, 1892.

The following is extracted from Dr. Munro's post mortem report. An abscess cavity extended from the anterior surface of the bladder which was covered with pus outside the peritoneum, along the iliac fossa and upwards to the under surface of the liver. The three openings made at different times all led into it. The second abscess cavity was between the obliquus internus and the transversalis muscles. No communication between the abscess sac and the peritoneum could be discovered, but from eight or ten ounces of pus were found in the pelvis and the intestines were glued together with purulent lymph. The cæcum and a portion of the ascending colon and ileum, with some surrounding tissue, were sent to me for dissection. The appendix vermiformis was glued to the posterior surface of the cæcum and the ascending colon. About half an inch from the cæcum it was perforated by a ragged ulcer. The perforation opened into the abscess cavity. The ulcer had nearly cut off the distal from the proximal end of the appendix. Both portions were perished. No concretion was found.

CASE 5.—A woman aged seventy was admitted to the Royal Infirmary, Newcastle-on-Tyne, on Aug. 20th, 1892, complaining of painful swelling in her bowels and weakness. Seven weeks before admission she first felt ill. She took to her bed five weeks ago. She then had some pain on the right side of the abdomen. Three weeks before admission a painful tender swelling was discovered by Mr. Martin of North Shields on the right side. Some diarrhoea was the only other symptom. She was a florid, emaciated, stout woman, looking extremely ill. Rapid feeble pulse, temperature 105° no appetite, dry tongue, considerable abdominal pain. Bronchial rales were detected on auscultation. The heart was hypertrophied. A systolic mitral murmur could be heard. The urine was normal in quantity and quality. The abdomen was distended and tender. On the right side there was a large, rounded tumour in the iliac fossa extending to the middle line below, to midway between the umbilicus and the anterior superior spine at the upper and inner border and above reaching to the lower costal margin. The patient was so ill and the abdomen so tender that no satisfactory examination was possible. From this time she improved, her temperature oscillating between 99 and 102°. The lung condition cleared up and she gained a little strength, though still very weak and ill. The mass on the right side softened and showed a tendency to point. No diagnosis could be made. On Sept. 1st, 1892, I opened the abdomen in the middle line, and introducing my hand found the bulk of the tumour to be a retro-peritoneal malignant mass surrounding and involving the cæcum. The pointing swelling was now punctured with a hypodermic needle in the right iliac fossa and pus was discovered. The median wound was closed and dressed and a drainage-tube left in a separate opening for the abscess cavity. The patient was returned to bed apparently no worse for the operation. The median wound healed in three weeks without any trouble. During September and the first half of October she improved in condition. Though profuse suppuration continued, and she was once out of bed. Then symptoms of increased cardiac failure showed themselves in breathlessness and oedema of the legs. On Oct. 23th, 1892, she complained of pain in the left leg which was noticed to be discoloured at its most dependent parts like post-mortem lividity. On the following day some of the reddened patches had turned black and there was no sensation in the foot and leg or pulsation in the arteries. On Nov. 2nd, in the evening she died somewhat suddenly. Before death total gangrene of the leg had occurred. Necropsy. There was contraction of the mitral orifice of a hypertrophied heart. No vegetations were detected on any of the valves. The left femoral artery was blocked for about six inches with an adherent blood-clot, white in the centre and red at the ends. There was a large malignant mass of glands behind the cæcum and surrounding it. The interior of the cæcum was extensively ulcerated, the ulcer having thick, hard walls. At the outer side and behind the cæcum and ascending colon a large abscess cavity extending from the pelvis to the under surface of the liver and diaphragm, was found. No secondary deposits were observed. Examined microscopically the growth proved to be a cylindroma.

St. Vincent's Newcastle-on-Tyne.

THREE CASES OF INTRA-OCULAR TUMOURS¹

By S. JOHNSON TAYLOR, M.B., C.M. EDIN. &c.

CASE 1.—A man aged sixty stated that, two months before consulting me, he had experienced a flickering in his left eye followed in three days by a loss of vision in the same organ, there was no pain or other disturbance. The sight of his right eye was fairly normal, whilst that of the left was less than counting fingers, the left pupil was a little larger than the right and only acted very slightly to light, the tension was normal or a full normal. The episcleral vessels in the middle line below were much enlarged and by focal light a dark brown mass far forwards was seen inferiorly and by careful focussing with the ophthalmoscope some small vessels could be seen on its surface, whilst to its nasal side the retina was clearly detached its vessels being seen with a convex lens of five dioptries. There was no evidence of any inflammatory mischief, nor did the mass move in any way with change of position, and I could clearly be accounted for only on one theory—viz., that of new growth, a gumma, a cyst, cercus, or a tubercular mass were all readily excluded. The great enlargement of the episcleral vessels over the site of the tumour was noteworthy. Such vascular dilatation is frequently found in growths on and near the ciliary region and is a very important sign, it occurred also in the next case. I urged the patient to allow his eye to be enucleated, but to that he would not consent. Some months afterwards I heard that the eye had been removed, but what valuable time was lost. No doubt secondary glaucoma, with intense pain, came on as the growth increased in size, and he submitted to the operation, the tumour was in all probability a melanotic sarcoma. Such a case is not uncommon. The next two cases are rare, one being exceptionally so.

CASE 2.—A woman aged sixty gave a history of increasing dimness of vision of the right eye since October 1890 and was first seen by myself in September 1891, when I found the vision 16 Jaeger with difficulty, the pupil, which acted to light was oval horizontally the iris tissue at its periphery above and below was gone and replaced by a patch of oar pigment, there were some large congested vessels on the sclerotic, one especially so below, the tension was normal. The pupil dilated badly with a mydriatic, the lens was so cataractous that only a dim view of the fundus could be obtained but looking very obliquely with the ophthalmoscope a murmur at the extreme periphery above and below the fairly regular rounded outline of a dark mass could be seen, though no vessels could be detected on it and rods all made out. Three days later I excised the eye, dividing the nerve far back, and up to the present—an interval of more than fifteen months—she has remained quite well. On opening the eye two separate growths in the ciliary region, one above, the other below were seen, each about the size of half a cherry stone. A full report by Mr. Collins of the microscopical examination will be found in the twelfth volume of the Transactions of the Ophthalmological Society.

CASE 3.—This case that of a woman aged fifty-two is also a very unusual one and I must confess I have never seen anything like it. There is no history of syphilis or tumours but she has had acute rheumatism three times, she has had eleven children, of whom nine are living. About ten years ago, after a fright, the sight of her right eye was noticed to be defective, almost as much so as it is at present. Of late she has had a feeling described as misery at the back of her head. I first examined her in November 1891, when the vision was only perception of light, with the pupil, anterior chamber and tension normal. Ophthalmoscopic examination revealed a rounded, well-defined, greyish white, solid looking mass occupying the centre of the fundus completely obscuring the optic disc and yellow spot and coming forward in front of the retina into the vitreous so that its most anterior part could be seen clearly with a convex lens of twelve dioptries. It could be isolated on all sides above below right and left, and the retinal vessels at several points could be seen emerging from beneath it, its surface in parts was supplied with a slate-grey pigment and at one or two points patches of nerviform vessels arranged in no definite way could be made

¹ Abstract of a paper read before the Norwich Medico-Chirurgical Society on Dec. 6th, 1892.

think I have proved my case as clearly as is possible in investigations of this kind. There are many difficulties to contend with in prosecuting these inquiries as the people in the neighbourhood of B— street &c. are easily led in conversation, and without considerable tact and discretion the information obtained is practically useless. The epidemic being small my difficulties were fewer and consequently the information is more trustworthy.

A bottle of the beer was purchased by me for bacteriological purposes, and I have endeavoured, without success up to the present, to cultivate colonies of the typhoid bacilli by inoculating agar and peptone with drops of the beer. I can hardly look upon want of success in this direction, however, as damaging my case, considering the present uncertain knowledge we possess of the typhoid bacillus.

Leicester

FIVE CASES OF LAPAROTOMY PERFORMED ON PATIENTS OVER SEVENTY YEARS OLD

By J. RUTHERFORD MORISON, M.B. EDIN.,
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LONG lists of successful ovariectomies can no longer serve any good purpose, for it has been proved that the mortality of ovariectomy should not exceed 5 per cent. My excuse for publishing the following cases is the advanced age of the patients. Sir G. M. Humphry long since pointed out that in old people repair and recovery are likely enough to follow major operations. This is true of abdominal section,—a fact not sufficiently recognised. My list includes all the patients over seventy on whom I have performed abdominal section, five in number. Four of them had ovariectomy successfully performed. Three of these are well and active at the present time. One died nearly two months after operation from the results of appendicitis. The fifth recovered from an exploratory abdominal section made to ascertain the nature of, and to treat if possible, an abdominal tumour of doubtful character and origin.

CASE 1.—A widowed seventy was sent to me in December, 1890, by Dr. McBean, with a cystic tumour in the abdomen. For several months she had noticed a growing swelling, had lost flesh and strength, and had been troubled with a hæmorrhagic vaginal discharge. The patient was a thin, wiry looking old lady, very nervous but cheerful. Nothing was found wrong except in the abdomen which was distended to about the size of a six months pregnancy. The distension was due to a fluctuating tumour fixed below in the pelvis. The left fornix was bulged by an elastic fixed tumour pushing the uterus over to the right. On Dec. 22nd, 1890, I performed the following operation. A broad ligament cyst was exposed, tapped, and enucleated after dividing the peritoneum covering it. The hæmorrhage was arrested by tying each bleeding point as exposed. A large raw surface was left, over which the stripped peritoneum was laid. The operation occupied one hour. Drainage was employed for three days. The patient recovered so rapidly that she was allowed to get up on the tenth day, and went home well in a fortnight.

CASE 2.—A widow aged seventy four came to me in August, 1892. The patient discovered an abdominal swelling herself ten years ago and consulted a medical man, who said it contained fluid. The swelling had steadily increased in size, but except by its weight had caused no discomfort. She had had no teeth since she was thirty years of age, and was never robust. All her family were short-lived. The patient was a thin, anxious looking woman with wrinkled skin and brown hair turning grey. Nothing was discovered abnormal except in the abdomen, which was rounded, prominent and larger than a full time pregnancy. A large, well defined cystic tumour was the cause of the swelling. It filled the abdomen so completely as to appear immovable, but friction could be felt over it on pushing it from side to side and during forced respiration. The tumour could be felt in front of and distinct from the uterus. On Aug. 6th, 1892, I removed a large cystic ovarian tumour free from adhesions. The after progress was uneventful. On the ninth day the dressings were taken off for the first time and the sutures taken out. The wound had entirely healed by first intention. On the fifteenth day the patient went home well.

CASE 3.—A widow aged seventy two, under the care of

Dr. Oliver, seventeen months ago noticed a "lump" in the lower part of the bowels. There was no pain, but "the womb came down." Four months ago the tumour began to increase in size and rapidly became larger. The uterus now troubled her and she noticed a coloured vaginal discharge which had increased during the last four or five weeks. The weakness produced by this was her chief complaint. Her health since she attained the age of forty five years had been fair. Up to that time she suffered from bilious attacks. She was a trim, bright-complexioned old lady with iron grey hair and a senile cataract in her right eye. Her heart was hypertrophied, as was shown by a diffused and heaving apex beat. The arteries were rigid and tortuous, the lungs were healthy. The urine was normal in quantity, sp. gr. 1005, a trace of albumen was present. The skin of the abdomen was much pigmented, especially over the upper part, and the superficial veins were dilated. The abdomen was made prominent by a rounded cystic thin walled tumour, flaccid and apparently unilocular, about the size of a large football. It was freely movable from side to side, but not from below upwards. The anterior wall of the vagina was prolapsed and the anterior cul de sac filled by a rounded elastic tumour. The left fornix was bulged out by the swelling. On the right side a hard nodular swelling was connected with the tumour. The uterus lay behind and was free from the tumour. On Sept. 8th, 1892, I performed the following operation. A flaccid cyst of the right ovary containing about one gallon of very thick glairy fluid was removed. The left ovary, with a hard tumour about the size of a walnut growing from it, was also taken away and the abdominal wound entirely closed. Subsequent progress was most satisfactory. The dressing was changed for the first time on the tenth day after the operation, when the stitches were taken out. The wound healed by first intention except at one place about half an inch long, where the skin had become inverted and granulations were visible. This healed a few days afterwards. On the tenth day the patient left her bed, and on the fifteenth she went home.

CASE 4.—A widow aged seventy seven, a patient of Dr. Munro of Burnard Castle. For years her abdomen had been large. She was suddenly seized with pain in the right iliac fossa, vomiting and shivering. The pain soon afterwards extended to the right leg, preventing her from straightening it. The bowels had been confined and she had been feverish and sweating at nights during the whole illness. The day previous to my visit Dr. Munro and Dr. Drummond found, by means of a hypodermic syringe, fetid pus in the right iliac fossa. Thirty three or thirty four years ago she had a dangerous illness—"inflammation of the bowels"—on the right side. She had never been robust but usually healthy. The patient was a thin, dark woman, who looked ill, with high temperature, tender swollen abdomen and oedematous legs, the right leg was more swollen than the left. An operation was performed on Sept. 20th, 1892. On opening the abdomen in the right iliac semilunar an ovarian tumour the size of a football was exposed and removed. No pus was found in it and there was nothing about it to account for the patient's serious condition. The cæcum, which Drs. Munro and Drummond had suspected to be the cause of the mischief, was now examined. It was adherent to the parietes and a fluid collection could be felt behind and to its outer side extending back to the loin. A second incision above the centre of the crest of the ilium allowed the escape of fully six ounces of fetid pus. The anterior or ovariectomy wound was sutured and the lateral wound drained with a glass tube, each wound being separately attended to and dressed. The ovariectomy wound never gave any trouble and quickly healed. Until Oct. 8th the after progress was most satisfactory, the general condition improved with return of appetite, sleep and freedom from pain. On this date the glass tube could not be replaced by the nurse, Dr. Munro or myself and for the first time since the operation her evening temperature was over 100°—Oct. 9th. No discharge from sinus, evening temperature 103°—12th. A gush of pus from sinus with lowered temperature.—Recurrences of a similar sort took place till Oct. 20th, when a fresh tender lump was noticed.—25th. Under chloroform I freely opened an abscess which extended from the iliac crest to the costal margin. The cavity appeared to be between the muscular margin of the abdominal wall and contained about four ounces of pus. Improvement followed and the patient was able to be out of bed. Soon, however, she relapsed, with some evening rise of temperature.—Nov. 5th. Dr. Munro suspect

ing a further collection of pus we explored again under chloroform and found pus at the bottom of the first sinus in large cavity. A counter-opening was made in the back, two all sized india-rubber drainage-tubes were passed from the front openings through it and the cavity was irrigated. The patient never really rallied and died on Nov. 9th, 1892.

The following is extracted from Dr. Munro's post mortem report. An abscess cavity extended from the anterior surface of the bladder, which was covered with pus, outside the peritoneum, along the iliac fossa and upwards, to the under surface of the liver. The three openings made at different times all led into it. The second abscess cavity was between the obliquus internus and the transversalis muscles. No communication between the abscess sac and the peritoneum could be discovered, but from eight to ten ounces of pus were found in the pelvis and the intestines were glued together with purulent lymph. The cæcum and a portion of the ascending colon and ileum with some surrounding tissue, were sent to me for dissection. The appendix vermiformis was glued to the posterior surface of the cæcum and the ascending colon. About half an inch from the cæcum it was perforated by a ragged ulcer. The perforation opened into the abscess cavity. The ulcer had nearly cut off the distal from the proximal end of the appendix. Both portions were pervious. No concretions were found.

CASE 5.—A woman aged seventy was admitted to the Royal Infirmary, Newcastle on Tyne, on Aug. 20th, 1892, complaining of painful swelling in her bowels and weakness. Seven weeks before admission she first felt ill, she took to her bed five weeks ago, she then had some pain on the right side of the abdomen. Three weeks before admission a painful tender swelling was discovered by Mr. Martin of North Shields on the right side. Some diarrhoea was the only other symptom. She was a florid, cyanosed, stout woman, looking extremely ill. Rapid feeble pulse, temperature 106°, no appetite, dry tongue, considerable abdominal pain. Bronchial rales were detected on auscultation. The heart was hypertrophied. A systolic mitral murmur could be heard. The urine was normal in quantity and quality. The abdomen was distended and tender. On the right side there was a large, rounded tumour in the iliac fossa extending to the middle line below, to midway between the umbilicus and the anterior superior spine at the upper and inner border and above reaching to the lower costal margin. The patient was so ill and the abdomen so tender that no satisfactory examination was possible. From this time she improved, her temperature oscillating between 98° and 102°. The lung condition cleared up and she gained a little strength, though still very weak and ill. The mass on the right side softened and showed a tendency to point. No diagnosis could be made. On Sept. 1st, 1892, I opened the abdomen in the middle line, and introducing my hand found the bulk of the tumour to be a retro peritoneal malignant mass surrounding and involving the cæcum. The pointing swelling was now punctured with a hypodermic needle in the right iliac fossa and pus was discovered. The median wound was closed and dressed and a drainage-tube left in a separate opening for the abscess cavity. The patient was returned to bed apparently no worse for the operation. The median wound healed in three weeks without any trouble. During September and the first half of October she improved in condition, though profuse suppuration continued, and she was once out of bed. Then symptoms of increased cardiac failure showed themselves in breathlessness and oedema of the legs. On Oct. 30th, 1892, she complained of pain in the left leg which was noticed to be discoloured at its most dependent parts like post-mortem lividity. On the following day some of these reddened patches had turned black and there was no sensation in the foot and leg or pulsation in the arteries. On Nov. 2nd, in the evening, she died somewhat suddenly. Before death total gangrene of the leg had occurred. Necropsy. There was contraction of the mitral orifice of a hypertrophied heart. No vegetations were detected on any of the valves. The left femoral artery was blocked for about six inches with an adherent blood clot, white in the centre and red at the ends. There was a large malignant mass of glands behind the cæcum and surrounding it. The interior of the cæcum was extensively ulcerated, the ulcer having thick, hard walls. At the outer side and behind the cæcum and ascending colon a large abscess cavity, extending from the pelvis to the under surface of the liver and diaphragm was found. No secondary deposits were observed. Examined microscopically the growth proved to be a cylindroma.

Saville row, Newcastle-on-Tyne

THREE CASES OF INTRA-OCULAR TUMOURS¹

By S. JOHNSON TAYLOR, M.B., C.M. EDIN. &c.

CASE 1.—A man aged sixty stated that, two months before consulting me, he had experienced a flickering in his left eye, followed in three days by a loss of vision in the same organ, there was no pain or other disturbance. The sight of his right eye was fairly normal, whilst that of the left was less than counting fingers, the left pupil was a little larger than the right and only acted very slightly to light, the tension was normal or a full normal. The episcleral vessels in the middle line below were much enlarged and by focal light a dark brown mass far forwards was seen inferiorly, and by careful focussing with the ophthalmoscope some small vessels could be seen on its surface, whilst on its nasal side the retina was clearly detached its vessels being seen with a convex lens of five dioptries. There was no evidence of any inflammatory mischief nor did the mass move in any way with change of position, and it could clearly be accounted for only on one theory—viz., that of new growth, a gumma, a cysticercus, or a tubercular mass were all readily excluded. The great enlargement of the episcleral vessels over the site of the tumour was noteworthy. Such vascular dilatation is frequently found in growths of and near the ciliary region and is a very important sign, it occurred also in the next case. I urged the patient to allow his eye to be enucleated, but to that he would not consent. Some months afterwards I heard that the eye had been removed, but what valuable time was lost. No doubt secondary glaucoma, with intense pain, came on as the growth increased in size, and he submitted to the operation, the tumour was in all probability a melanotic sarcoma. Such a case is not uncommon. The next two cases are rare, one being exceptionally so.

CASE 2.—A woman aged sixty gave a history of increasing dimness of vision of the right eye since October 1890 and was first seen by myself in September, 1891, when I found the vision 16 Jaeger with difficulty, the pupil, which acted to light, was oval horizontally, the iris tissue at its periphery above and below was gone and replaced by a patch of dark pigment, there were some large congested vessels on the sclerotic, one especially so below, the tension was normal. The pupil dilated badly with a mydriatic, the lens was so cataractous that only a dim view of the fundus could be obtained, but looking very obliquely with the ophthalmoscopic mirror at the extreme periphery above and below the fairly regular, rounded outline of a dark mass could be seen, though no vessels could be detected on it and no details made out. Three days later I excised the eye, dividing the nerve far back, and up to the present—an interval of more than fifteen months—she has remained quite well. On opening the eye two separate growths in the ciliary region, one above, the other below, were seen, each about the size of half a cherry stone. A full report by Mr. Collins of the microscopical examination will be found in the twelfth volume of the Transactions of the Ophthalmological Society.

CASE 3.—This case, that of a woman aged fifty two is also a very unusual one, and I must confess I have never seen anything like it. There is no history of syphilis or tumours but she has had acute rheumatism three times, she has had eleven children, of whom nine are living. About ten years ago, after a fright the sight of her right eye was noticed to be defective almost as much so as it is at present, of late she has had a feeling described as "misery" at the back of her head. I first examined her in November 1891 when the vision was only perception of light, with the pupil, anterior chamber and tension normal. Ophthalmoscopic examination revealed a rounded, well defined, greyish white solid looking mass occupying the centre of the fundus, completely obscuring the optic disc and yellow spot and coming forward in front of the retina into the vitreous, so that its most anterior part could be seen clearly with a convex lens of twelve dioptries. It could be isolated on all sides above, below right and left, and the retinal vessels at several points could be seen emerging from beneath it, its surface in parts was stippled with a slate grey pigment and at one or two points patches of newly formed vessels, arranged in no definite way, could be made

¹ Abstract of a paper read before the Norwich Medical Surgical Society on Dec. 6th, 1892.

out. It was clearly growing in front of the retina and choroid, and my own idea was that it was growing from the face of the optic disc, possibly from the remains of a foetal structure such as the hyaloid artery, and that it was of myxomatous or more fibrous connective tissue type and of comparatively innocent nature.

It was suggested at one of the meetings of the Ophthalmological Society at which I brought forward the patient that the growth might be of a colloid nature. I have urged enucleation as the eye is useless and a possible source of danger to life, but up to the present she has not consented to have it removed. I venture to say that the last two cases are amongst the rarest to be met with anywhere.

Prince of Wales road, Norwich.

TREATMENT OF A CASE OF PYÆMIA RESULTING FROM DISEASE OF THE MIDDLE EAR

By BERNARD SCOTT, M.R.C.S., L.S.A.,

AND

W. ARBUTHNOT LANE, M.S., F.R.C.S.

Mrs. S—, aged forty, had been troubled for more than four years by an offensive purulent discharge from the left ear, for which she had been treated without deriving much benefit from the treatment. At intervals she suffered from attacks of pain in the ear and in the mastoid process and its vicinity, together with headache on the left side of the head. About the middle of April, 1892, the patient had one of these attacks which was more severe in its character than those preceding it, the headache accompanying the local pain being very great. This continued with increasing tenderness over the mastoid process. On May 29th she suddenly became much worse and had a rigor. Mr. Bernard Scott of Bournemouth was then called in to see her and at once suggested operative interference, as he believed she had a subdural abscess in the posterior fossa. On the 30th she was much better, but could not bear any light. This rendered any examination of the fundus of the eye impossible. On the 31st the patient had another rigor, the temperature rising to 104.5°. Mr. Scott now came to the conclusion that the sinus had become involved by a septic thrombosis and again urged the advisability of surgical interference without delay. This the friends opposed as the patient rapidly improved. On the following day the temperature was normal and the headache was much less. On June 2nd she had another rigor, when Mr. Scott asked Mr. Arbuthnot Lane to see the patient with him, which he did in the evening. Mr. Lane quite agreed with Mr. Scott as to the presence of a subdural abscess of some size with septic thrombosis of the lateral sinus and it was decided to operate at once. Some small cancellated spaces filled with pus were found in the mastoid process, which accounted for the local pain and great tenderness which existed, neither of which symptoms are of necessity present in subdural abscess with or without a septic thrombosis of the lateral sinus. The antrum was found to be much enlarged and to be filled with foul smelling pus. On freely exposing the dura mater of the posterior fossa a large subdural abscess was opened. This abscess extended over the lateral sinus for about an inch and a half, the wall of the sinus was, like that of the adjacent dura mater, much inflamed. Bone was freely removed with the gouge till the sinus was fully exposed for more than two inches, healthy dura mater and sinus being bared for some distance beyond the limit of the subdural abscess. On introducing a needle into the sinus, blood flowed freely. The internal jugular vein was then tied in the neck and the wound closed accurately with a continuous suture. On again pricking the sinus, blood did not flow, showing that the sinus was blocked at the torcular limit of the subdural abscess. The inflamed wall of the lateral sinus up to the torcular margin was cut away with scissors, when a large conical shaped clot about an inch and three quarters in length was pulled out of the sinus and internal jugular vein into which it extended. Having prepared a large plug formed of iodoform and gauze the sharp spoon was quickly introduced into the sinus and the small thrombus which closed it was removed. Very pro-

fuse hæmorrhage followed this step of the operation, but it was readily controlled by the plug of gauze. Owing to the very free hæmorrhage it would have been impossible to introduce any plug into the sinus had it seemed advisable to do so, but this was quite unnecessary, as the mass of gauze and iodoform which pressed on the open aperture of the sinus prevented further hæmorrhage. The skin flaps were then sewn down over the iodoform and gauze, so as to retain it in firm apposition. Previously to this the contents of the middle ear had been removed. The relief afforded by the operation was most marked, the patient sleeping without any sedative, the headache and local pain also disappearing. The iodoform plug was removed seventy two hours after the operation and all the skin incisions were healed by first intention. The temperature never rose above 99° after the operation and in a fortnight the patient was sitting up and enjoying her meals.

This case, like hundreds of others, but too clearly proves the folly of delay in performing antrectomy when a patient with chronic middle-ear disease begins to be affected by pain in and about the mastoid process and by headache limited more or less completely to one side of the head. In such a case no other surgical treatment is so effectual, for the operation, though unaccompanied by risk in its performance, frees the patient from immediate pain and discomfort as well as from all subsequent risk, and at the same time restores to the patient more or less perfect hearing capacity.

The only point in the treatment of this case which is possibly novel was the complete removal of that portion of the thrombus which blocked the lateral sinus at the torcular limit of the subdural abscess. The readiness with which the very free flow of blood which then followed was permanently controlled by the pressure of the gauze plug was remarkable. At the same time it was obvious that if the whole lumen of the sinus had not been more or less completely thrombosed at one point, and that distally, great difficulty would have been experienced in opening up the sinus sufficiently freely to allow of the complete removal of a partial thrombus in the face of the very free hæmorrhage which would have resulted from an incision into the sinus. Though many methods of treatment have proved successful in these cases of thrombosis of the lateral sinus accompanied by rigors, and later by secondary abscesses &c., yet it would appear that the method here adopted of removing every portion of the thrombus is, if possible, the most scientific and perfect, and Mr. Lane followed it with equally satisfactory results soon after in another case.

That such a complete removal is by no means necessary for recovery is shown by the different means which were adopted in the three following cases operated on by Mr. Lane. Case 1. Internal jugular vein ligatured, lateral sinus opened and cleared of proximal portion of clot, distal portion of clot being left because very close to torcular, recovery. Case 2. Internal jugular vein tied, surface of sinus cleared of pus but not opened, recovery. Case 3. Subdural abscess, rigors, partial thrombosis, abscess cleared out, recovery.

Out of six cases of pyæmia due to middle-ear disease on which Mr. Lane had operated he had lost only one, and death arose in that case from an extension of the septic process along the petrosal to the cavernous sinuses. Mr. Horsley, in a paper¹ published in the Clinical Society's Transactions, 1886, threw out a suggestion that in cases of septic thrombosis of the lateral sinus the internal jugular vein should be tied, but he did not propose to interfere with the thrombus itself. It was in consequence of this suggestion that Mr. Lane performed his first operation, though in this case, besides ligaturing the internal jugular vein, he removed thoroughly almost the entire thrombus. To trust to ligature of the internal jugular vein alone would be inadvisable, as the thrombus may readily creep along the petrosal and lateral sinuses, and it is well to remove it in its entirety. This applies with increased weight to cases of septic thrombosis arising in other portions of the body and is well illustrated by a case² which was recently published in THE LANCET by Mr. Lane.

Mr. Rushton Parker, in a most interesting account of his case,³ speaks of probing the sinus upwards and blood escaping freely. One does not gather, however, from his

¹ Antrectomy as a Treatment for Chronic Purulent Otitis Media. Archives of Otolaryngology, vol. xxi. No. 2, 1892. Arbuthnot Lane.

² A case of Suppuration of the Mastoid Cells &c. Clin. Soc. Trans., vol. xlii.

³ Alveolar Abscess, Pyæmia. Excision of Thrombosed Veins, Death. THE LANCET, Nov. 28, 1892.

⁴ Brit. Med. Jour., May 21st 1892.

scription that he did this with the view of removing every portion of clot, though in all probability that as the motive that guided him in doing so. Unfortunately too often septic thrombosis of the lateral sinus and the usually necessary antecedent condition (subdural effusion) escape notice till too late, because the surgeon expects to find tenderness or swelling of the mastoid process, and on percussing over that bone, tenderness or swelling along the course of the internal jugular vein &c., none of which are necessarily symptoms of these conditions. The reason of this has been pointed out fully in an abstract of medical lectures on inflammation of the middle ear and its implications which was published in THE LANCET of Sept 26th, 1891.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL AND THERAPEUTICAL

THREE CASES OF FRIEDRICH'S DISEASE

By E. H. BROCK, M.D., B.S. LOND.

Family history—The father of Cases 1 and 2 is alive and healthy, he had one sister who died in middle life and who is said to have been affected similarly to the cases here described. Their mother is alive and healthy and has had fifteen children, of whom eight died in infancy, of the other seven, four were boys and three were girls. Of the three girls, one died aged thirty one affected similarly to the cases here described, the second is married and has four children, three boys and one girl, the eldest boy, aged fifteen, being affected (Case 3), and the third is married and has five children, all healthy. Of the four boys, one is married and has nine children, five boys and four girls—of these, one of the girls, aged sixteen, has very marked lateral curvature and suffers from asthma. The second (Case 1) is married and has four children, three boys and one girl—one of the boys, aged ten, is said to have had health, he has attacks of weakness of the arms and legs, especially the latter, during which he is unable to get about or to dress himself the attacks passing off in the course of a day, after which he seems all right. Physical examination of this patient does not reveal anything significant of disease, his knee jerks, muscular development, sensation, gait, eyes &c. all appearing normal. The third is single and healthy, and the fourth, who is married (Case 2), has no family.

Case 1—S. S.—aged forty. Has been married sixteen years, and was formerly a stonemason. Complained mainly of inability to walk. He was quite healthy till eighteen years of age, when having been working as a stonemason for four years it was noticed that his right shoulder was "growing out." He sought advice and after getting worse for a time it became stationary. About four years later he gave up his work as a stonemason, partly from the fact that he used frequently to strike his hand with the mallet. A few months later he came to London and obtained a situation as foreman in a brick field. Whilst thus engaged he began to notice some difficulty in walking in the dark, he seemed to "go all over the place." The difficulty was especially marked in ascending or descending steps the latter being worse. About this time he had occasional violent headache. He married, and about two years after coming to London he returned to the country and tried to work in a stone quarry. He very soon, however, had to use a stick in walking and said his legs used to "catch," and he could not understand how it was he always seemed to lift his feet too high. The difficulty in walking had gradually increased and for the last three years he had been quite incapacitated. His wife thought his speech had gradually become less distinct and this was especially remarked by his friends who saw him at infrequent intervals. At times he had difficulty in holding his urine, but did not wet the bed. The patient was very well nourished, he was easily excited to laughter, the speech was thick and indistinct sometimes being quite unintelligible, the nodding movements of the head were very marked,

especially when the patient was first spoken to. There was very slight slow nystagmus sometimes observable when he looked to the extreme right or left, the pupils and optic discs were normal. He suffered from slight weakness of the legs and the hands. There was very marked incoördination of the arms as when directed to touch the end of his nose or pick up a pin. The knee jerks were absent, the plantar reflex was present, cremasteric and abdominal reflexes were not obtained, there was no loss of common sensation. He could just stand with assistance and an attempt to walk was markedly ataxic, the knees being over extended. He had no lightning or girdle pains and there was no rigidity of the legs or arms. The patient had marked lateral curvature of the spine to the right in the upper dorsal region, to the left below.

Case 2—C. S.—aged twenty seven, married. This patient said that he had always had more or less difficulty in walking in the dark and in going up and down stairs. This difficulty had become greater during the last twelve years. He was well nourished, his speech was slow, drawing and indistinct, the nodding movements of the head were present, there was slight slow nystagmus on looking to the extreme right or left, the pupils and optic discs were normal, knee-jerks were present, there was no rigidity of the legs, no ankle clonus, no alteration in common sensation, the walk was markedly ataxic, there was also incoördination of the hands and arms.

Case 3—F. B.—aged fifteen, schoolboy, nephew of the preceding. He said that there was nothing the matter with him. His walk, however, was slightly ataxic, the feet being kept well apart, and he had considerable difficulty in turning round quickly, he also swayed considerably and almost fell when walking or standing with the eyes shut, the pupils and optic discs were normal, the speech was natural, though rather slow, there were no nodding movements of the head, knee-jerks were absent, there was no impairment of sensation and no rigidity, he had incoördination of his hands and arms, as in touching his nose or picking up a pin, and said that when trying to play football he almost always missed the ball.

Bridge-terrace, Maldstone

ON MIGRAINE

By LEONARD G. GUTHRIE, M.B. & B.Ch. OXON,
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DR. WALLACE's graphic account of his sufferings from migraine and of their cure by simple means, published in the last issue of THE LANCET, recalls a similar episode in the "Mémoires de Marmontel" (born 1723, died 1799). Marmontel writes—"Although my health as a rule was perfectly good, I was subject to headaches of a very peculiar kind. The disease is called 'clavus,' its locality just beneath the eyebrow. It is the throbbing of an artery whose every pulsation pierces like a knife thrust to one's soul. The pain is inexpressible, yet, excruciatingly intense as it is, it affects one spot only.

For seven years this illness came upon me at least once a year and lasted twelve to fifteen days, not continuously, but in fits as happens in fevers, and each day at almost precisely the same time. Each fit lasted about six hours, announcing itself by a feeling of tension about the veins and neighbouring fibres, and by not more hurried but stronger throbbings of the artery where the pain was situated."

—Medical men had striven in vain to cure him. Bark, bleeding, fumigation, sternutories and musk made him worse. Even the Queen's own doctor "Malouin" ("a fairly clever man, but more Purgon than Purgon himself") failed to relieve him by injections of "infusions de vulnéraire." At last one day during the height of an attack "Genson," the Dauphin's farmer and celebrated veterinary surgeon, happened to call. "He saw the inflamed state of my right eye and all the fibres of my temple and eyelid quivering and palpitating and asked the cause of my illness. I told him what I knew about it, and after a few details as to my constitution, mode of living and usual state of health he said 'Is it possible you have been allowed to suffer so long from an illness which might so easily have been cured? When your ink is too thick and will not flow, what do you do?' 'Put water to it.' 'Well, put water

to your lymph, it will then flow and no longer congest the pituitary membrane which at present obstructs the artery, whose pulsations rub upon the neighbouring nerve and cause you such great pain. You have in the bone there a small cavity called the 'frontal sinus' lined by membrane which is now thickened and congested. What we have to do is to get it clear. Be careful at dinner to day. Take no stewed meats or neat wines, coffee or liqueurs, and instead of supper to night drink as much fresh clear water as your stomach can bear without fatigue. To-morrow morning drink water in the same way. Keep to this diet for a few days, and I predict that to-morrow the attack will be slight, the day after to-morrow scarcely perceptible, and on the following day there will be no attack at all."

The prediction was verified, and as to prevention the learned veterinarian warned him that for some years thickened lymph would tend to accumulate in the weakened mucous membrane of the frontal sinus. If he would observe the premonitory symptoms (tension of veins and fibres of the temple and eyebrow) and then drink water and resume the diet, he would both relieve the pain and in time would prevent recurrence of the disease. "His rules were strictly observed, and I obtained to the full the result he had promised me."

Genson's pathology is crude, but his treatment is similar in method and success to Dr Wallace's own. Indeed, one may question whether Dr Wallace's relief was due to "salvolatile, soda, ginger, peppermint and chloroform" or to the two or three tumblers of cold water in which they were taken, combined with restricted diet. Some agree that the success which attends drinking Spa waters probably depends less on their nastiness than on the quantities in which they are drunk, together with the hygienic régime enjoined. Yet our patients will not usually drink water unless we make it nasty for them, and had Genson been a physician Marmontel would probably have rejected his advice with scorn. Both Dr Wallace and Marmontel speak of that form of migraine which is due to imperfect elimination of waste products, and which is cured by the homely expedient of "flushing the drains." Migraine may sometimes be a pure neurosis or "nerve storm," but in most cases the wind is raised by the stomach and digestive organs generally. Yet there are many other causes of migraine. Errors of refraction are well known to produce it, especially in childhood. This was my own case in early youth. Again, various local conditions of the nasal passages and sinuses, such as catarrh, inflammation, necrosis, polypi, or foreign bodies, may give rise to the complaint. Foreign bodies may be living. Scoutetten¹ speaks of a Metz farmer who for a year had suffered from the most terrible of headaches, in which the temporal arteries pulsed violently, the eyes and nostrils ran and the least noise or light could not be borne. He became delirious during the paroxysms, which occurred five or six times a day and as often at night. At last his sufferings were relieved by the expulsion through the nose of living "scelopendra electrica" two inches and a quarter in length. Again, as Dr Lauder Brunton has ably shown ("Disorders of Digestion"), many headaches are due to dental caries. A girl aged thirteen has been under my care for eighteen months. For a year previously she had suffered from the interesting combination of symptoms—weekly migraine, monthly epilepsy and more or less constant tetany² of both hands and feet. Her digestion was bad, her front teeth were decayed and she had also punctate cataract, to which I at first attributed the symptoms. However, on getting the teeth stopped and giving instructions as to diet and exercise (which were carried out with Spartan like rigour), she had only one more fit within a month and has had none since. The tetany and headaches gradually disappeared and for many months she has appeared in perfect health. Avoidance of a particular cause will sometimes prevent migraine. To this day I dare not walk between thin hedges or vertical close set palings through which a bright sunlight flickers, for if I do giddiness, hemianopsia and violent headache invariably occur. Neither can I use a catalogue in a picture gallery, except for pictures on the line. The frequent and sudden alterations of accommodation entailed speedily produce typical migraine, which, however, I escape if I am without a catalogue. Hence in all cases of migraine it is needful to follow Marmontel Genson's example and inquire into the "habits, constitution and general health" of the patient before prescribing a universal cure-all.

Upper George-street, W

THE POSOLOGY OF THE PHARMACOPEIA

By R. J. BLACKHAM, L.R.C.P., L.R.C.S. EDIN &c.,
SURGEON TO THE TON AND BULLFA COLLIERIES.

THE doses of the Pharmacopœia have often been questioned, but I think the most glaring error in the book is the dose of the official substitute of chlorodyne—the tinctura chloroformi et morphine. The maximum dose of this remedy is given as ten minims, but I have never obtained any substantial benefit from less than twenty or thirty minims. I may quote the following case in illustration both of this fact and of the somewhat erroneous statement of the text-books that opium is very badly borne by children.

A few days ago I was called to see M. L., aged six years, who was suffering from the following symptoms. She had been vomiting for some hours, and was obstinately constipated, the temperature was 102°, pulse 130, the abdomen was hard and board like but very slightly tender, and she lay supine with the legs drawn up, complaining of intense pain referred to the umbilical region. I ordered turpentine stupes and administered two minims of the tincture of opium, with four of the tincture of henbane every hour, but without substantial benefit. As the turpentine rapidly affected the delicate skin of the child I was obliged on the third day to substitute linseed meal poultices. These, while very warm, eased the pain temporarily. On the morning of the fourth day I found the child had stood the opium remarkably well, the pupils remaining fairly large, and the patient by no means drowsy. She only slept for periods of not more than half an hour, and invariably woke in great agony. I determined to try the Galenical chlorodyne on the evening of the fifth day, commencing with five minims every hour while in pain. It acted like a charm, soothing the little patient immediately. I combined it with two-minim doses of the tincture of belladonna and gave the mixture freely. On the ninth day, after consuming almost five drachms of the tincture of chloroform and morphine without fifty six hours, the child was quite free from pain, its temperature was normal and its appetite and spirits good. She has now quite recovered. I should mention that I administered a teaspoonful of malted rice on the third fifth and eighth days and supported the child solely on milk and beef tea, giving iced imperial drink to allay the thirst, which was very considerable. I consider the case instructive as it teaches us something of the therapeutics of a valuable compound and militates strongly against the official posology and the generally taught opinion that opium and its compounds are invariably badly borne by young children.

Ton Pentre, Rhondda Valley, S. Wales

DIABETES FOLLOWING INFLUENZA, RECOVERY

By G. H. HETHERINGTON, M.R.C.S., L.R.C.P. LOND.,
AND
HERBERT H. BROWN, M.D., B.S. LOND., F.R.C.S. ENG.

CASES of complete recovery from acute diabetes mellitus occurring in a young subject are of sufficient rarity to be worthy of record. The following case resembles very closely one which was recorded in THE LANCET (April 2nd, 1892, in which, as in this case, diabetes supervent upon an attack of influenza.

On March 10th, 1892, a boy fifteen years of age came to consult us with the following history. He had been quite well until a month previously, when he was attacked by influenza. Three weeks ago he began to suffer from thirst. This steadily increased and was a very distressing symptom when he sought advice. His urine began to increase in amount *pari passu* with the thirst, and he had to get eight or nine times in the night to pass urine. The total amount for the twenty-four hours would appear during the last few days to have been from twelve to fifteen pints. He had rapidly lost flesh and strength. There was no history of diabetes in the family. His father, mother five brothers and two sisters are alive and well. The lad was thin and nervous and rather tall for his age, face slightly flushed, aspect suggestive of diabetes, tongue red, clean, and smooth, and pale, of typical diabetic appearance, loaded with sugar, sp. g. 1040. An absolutely strict diabetic diet was ordered, and

urbo-hydrates so far as possible being excluded. Under this regimen the patient improved at once. The next day the urine was gone, and only sixty ounces of urine were passed, *s. p. gr.* 1035. After one week the daily excretion was about sixty-five ounces of *s. p. gr.* 1030 still containing sugar, though in greatly diminished amount. He was then given half a grain of codeia three times daily immediately after meals. Two days later, nine days from the commencement of treatment, the sugar entirely disappeared. Since that date (March 19th) the urine has remained absolutely free from sugar, and the patient has completely regained health and strength. The codeia was first reduced on May 7th to one grain and on the 21st to half a grain daily. In the first week of June the diet was gradually relaxed, until by the end of that month the patient returned to his ordinary food and the codeia was left off altogether.

A very similar case to the above was reported in THE LANCET of April 2nd, 1892, by Mr. Hoysted. Acute diabetes came on a week after influenza and disappeared entirely upon treatment by dieting and codeia. As regards the pathology little can be said. When first seen the case appeared to be one which might terminate fatally in a comparatively short time, and if untreated probably would have done so. The attack followed very closely upon influenza, and, taking the other case into consideration, it is impossible to resist the inference that it was a sequela of it. It is possible that several such cases may have occurred during the recent epidemics. On the other hand, influenza occurring in a diabetic patient does not necessarily aggravate the disease. In one case of severe diabetes, at a time in which by careful dieting and treatment by codeia the urine was kept free from sugar it remained so during an attack of influenza and for several weeks afterwards, although during the febrile period a milk diet was principally used. It is probable that diabetes following influenza, though very acute in its onset and doubtless if untreated rapidly tending to a fatal termination, yet differs from the ordinary form in its special amenability to treatment.

Ipwich.

AN UNCOMMON CAUSE OF DEAFNESS

By C. F. WILLIAMSON, M.R.C.S., L.R.C.P. LOND. &c.

I THINK the following case of deafness is of sufficient interest to be published in THE LANCET on account of its rarity.

Recently I was asked to see a boy aged six years who was suffering from neuralgia, otorrhoea and deafness. On examination there were a slight discharge, not offensive, issuing from the external meatus total deafness and a dark object filling up the passage. No history could be extracted of anything having been introduced into the ear. All attempts at a second examination were repulsed and as I was some distance from my house I desisted intending to give an anæsthetic the following day. Next morning on examination, I found a foreign body presenting at the meatus, which was easily removed by a bent probe, and proved to be a blowfly complete except for its wings. When the mother of the child saw the fly she said that eighteen months previously she attended a sale, taking her son with her. While there he caught a fly by its wings and kept constantly holding it up to his ear to hear it buzz. After a short time the wings became detached and the fly crawled into his ear. All that night the boy cried with earache, but next day was free from pain and had remained so until a few days before my advice was sought.

Hedley

ECCENTRICITY OF PUPILS DUE TO FAULTY POSITION OF HEAD AND EYES

By C. PRICE TANNER, L.R.C.P. LOND., M.R.C.S.

G. H. C.—aged eleven, was admitted into the Worcester County and City Lunatic Asylum on March 1st, 1887, and died at the beginning of the present year. He was an idiot from birth. No abnormality of eyes was noted at the time of admission. During the last two years of his life the following condition was observed repeatedly. His head was always flexed on to his chest, and as a rule the eyes were closed. When he opened his eyes the distance between the edges of the lids did not exceed from one fourth to three-eighths of an inch. The eyes were directed downwards and

forwards. The lateral movements were apparently normal, perhaps a little restricted in range. There was no convergent or divergent squint. Vertical movement of the eyes was never observed. On raising the upper lid only the upper half of the cornea and iris was visible, and the iris was found to be unequally contracted, its opening although circular, being nearer the upper than the lower margin of the cornea. The lower part of the cornea could only be seen by depressing the lower eyelid. The iris reacted sluggishly to light, but the eccentricity of the pupil was always present. The same condition obtained in both eyes, and persisted after death, being distinctly visible, though to a slightly less degree sixty-six hours after death. I think it probable that the position of the iris was due to the faulty position of the head, coupled with the downward strabismus which would allow light to act only upon the upper part of the iris.

Powick, near Worcester.



HOSPITAL PRACTICE, BRITISH AND FOREIGN

Nella autem est alia pro certo nocendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI De Sed. et Caus. Morb., lib. iv. Proœmium.

MIDDLESEX HOSPITAL.

CASE OF LACERATED WOUND OPENING THE AXILLA
SIMULATING A STAB.

(Under the care of Mr. HULKE.)

THAT in instances of injury particularly those which are attended with breach of continuity of the surface of the body, much assistance towards attaining a correct appreciation of the circumstances of the wound will frequently be derived from inspecting the patient's clothes is a truism recognised by all but very neglected by many. An examination of the clothes should be a matter of routine, at the earliest opportunity, and where it is probable that a case may become the subject of legal inquiry it can never wisely be omitted. The following is an example of its utility.

W. C.—aged twenty-seven, a carman, was admitted into Founder ward on Nov. 7th, 1892, with a wound two inches long, vertically dividing the integument and the deeper structures of the upper part of the anterior fold of the axilla and passing deeply downwards into this space. Its edges were slightly frayed and bruised, suggestive of the wound having been inflicted with a blunt knife. The patient himself, dazed and confused, had no distinct recollection of the way in which he had incurred the injury but those who brought him to the hospital said that he had fallen off a van and he had, it was thought, struck his left shoulder against the splinter bar. An inspection of his shirt confirmed this account. Widely stained by a large effusion of blood, the material of the shirt corresponding to the situation of the wound was found to be quite entire, thus conclusively disproving a stab. The wound was flushed with a mercuric perchloride solution, covered with a dry antiseptic dressing and the arm secured to the side. On Nov. 21st he was dismissed with the wound healed. Here, not improbably, the wound may have been inflicted by the blunt edge of the iron stud attached to the ends of the splinter bar for securing the traces, and the toughness of the material of the shirt prevented its being torn. Where, however, the impact of the body and the implement is very great, large pieces may be torn out of a garment and deeply buried in a wound, and this not merely in gunshot injuries, but in those resulting from the accidents of civil life. Thus a lad was admitted into the Middlesex Hospital with a lacerated wound in the floor of the right axilla, he was said to have spiked himself on a piling in falling from a window on to the pavement. A few days later an abscess formed on the shoulder which enclosed a rag of linen nearly as large as the palm. This was found to be a piece of his shirt, the presence of which in the wound might

have been suspected previously had his clothes been examined when he was received into the hospital. Another and yet more striking illustration is the following. A gate-keeper at a railway crossing was struck down by an engine, which was slowly moving, and carried along for several yards before he could be extricated. The iron guard placed in front of the forewheel for the purpose of throwing off obstacles on the metals of the line had pierced the front of his thigh just below the groin and nearly traversed the limb. The huge wound was dressed by local surgeons and the man sent into the hospital. Some days afterwards an abscess formed in the gluteal region, and from this was taken out the bottom of his pocket, enclosing some copper pence. The presence of this foreign body had till then been unsuspected.

MANCHESTER ROYAL INFIRMARY

A CASE OF MYELITIS SIMULATING HÆMATOMYELIA BY ITS SUDDEN ONSET, UNILATERAL ANALGESIA AND THERMO-ANÆSTHESIA, GREY MATTER CHIEFLY AFFECTED

(Under the care of Dr STEELL.)

THE following is the report of a case showing the almost instantaneous onset of paralysis which may occur in acute myelitis, and the occasional difficulty, if not impossibility, in diagnosing between spinal hemorrhage and acute myelitis (or acute softening). The onset of paralysis could scarcely have been more sudden and yet not a trace of hemorrhage was to be found on careful microscopical examination of the whole of the affected part of the spinal cord. For the notes and remarks on this case we are indebted to Dr R. T. Williamson, Medical Registrar.

F. K.—, aged thirteen, was admitted at the Manchester Royal Infirmary on Nov 30th, 1891. The patient's illness commenced sixteen days before admission. On the day on which her symptoms commenced she arose, as usual, about eight o'clock in the morning feeling quite well. She dressed herself, combed her hair and then went downstairs and commenced to wind up the window blinds. She wound up half of them, but on attempting to wind up the blind of the next window she found that she could not extend her arms. Both arms had become suddenly paralysed (just as they were on admission, according to the statement of the patient, who is a most intelligent girl). About one hour later the legs became weak and by the evening both were completely paralysed. There was no pain anywhere at first, but the day after the onset of the paralysis she began to suffer from pain between the shoulders. This was rather severe, continued about a week and then diminished. On the day of the onset of the paralysis there was retention of urine, and ever since that date there has been retention with dribbling and loss of control over the motions. The catheter has been used twice daily. There was no history of injury to the back, or any history of symptoms of congenital or acquired syphilis. Her previous health was very good. For two days before the onset of paralysis she had felt somewhat "chilly," but there had been no rigor. She had done her work as usual, and otherwise had felt quite well. No history could be obtained of any other symptoms whatsoever before the onset of paralysis.

Dec. 1st, 1891.—The patient is anæmic, is fairly well nourished, the temperature is subnormal. She is quite unable to stand. She is just able to flex at the hip and knee to a very slight extent on the left side, but is unable to perform any movement of the right leg. Both feet are dropped. The legs are flaccid, the muscles are flabby, there is knee-jerk, absent on left side, present but very feeble on the right. There is no ankle-clonus. The plantar reflexes are feeble. Abdominal and epigastric reflexes are absent. There is slight effusion into the right knee-joint. The patient lies on her back, with the arms slightly abducted at the shoulders, the elbows flexed and her forearms bent over the chest, the fingers are semi flexed and the hands lie within the palmar surfaces on the chest. The grasp is exceedingly feeble, almost absent. The patient is unable to perform any other movement of the fingers or thumbs. She is unable to flex or extend the wrist. Also she is unable to extend either arm at the elbow, but when the limbs are extended passively she can flex at the elbows, the biceps and supinator longus contracting quite well on each side. The forearm is in a position of semi pronation and the patient is unable to supinate except to a very slight extent.

She can abduct at each shoulder, the deltoids contracting quite well. She can also flex and extend and rotate inwards and outwards at the shoulders, but adduction is very feeble. She can extend the upper arms forwards in front of her chest and almost make the elbows meet, she can also place her arms above her head on the pillow, but the forearms remain strongly flexed on the upper arms in these movements. She can shrug her shoulders, the trapezius contracting quite well on each side. The chest is motionless and the breathing entirely diaphragmatic. There is retention of urine, with dribbling and loss of control over the motions. The patient is able to feel and localise the touch of a pin's head quite well all over the limbs and trunk. On the left leg and left side of the abdomen and chest as high as the seventh rib (in the nipple line) she is unable to distinguish between the touch with the head and the point of a pin. In this area a deep prick does not cause any pain, even when the pin is thrust deeply into the skin and allowed to remain there. It is simply felt as a tactile sensation. This area of analgesia encloses a little to the left of the middle line of the abdomen and chest. She is able to distinguish readily between the point and head of a pin, and a pin prick is exceedingly painful on the right leg and right side of the abdomen and chest below the seventh rib. Above the seventh rib sensation to pain and tactile impressions is normal on the chest and also on the face. On the arms a pin prick was sharper on the anterior part of the upper arm, on the radial border of the forearm, on the radial half of the hands (dorsal and palmar surfaces), and on the thumbs than on other parts. In the above-mentioned analgesic area on the left side she is unable to distinguish between a hot and cold test-tube. On the right leg and right side of the abdomen she is able to distinguish a hot and cold test-tube readily, above the third rib on the right side she is unable to distinguish them. On the anterior part of the upper arms and on the radial border of the forearms and radial side of the hands hot and cold test-tubes are readily distinguished, but not on other parts of the arms. Over the deltoids and on the face hot and cold test-tubes are distinguished readily. The patient can tell the position of the legs on passive movements. There is tenderness on percussion over the seventh cervical and first and second dorsal spines. She has also slight pain in the lower cervical region, but has more in the lumbar region. There is great hyperæsthesia and pain all over the right leg, but there is no pain in the arms or in the left leg.

There is no spinal curvature or any affection of the facial, ocular, or tongue muscles. The left palpebral fissure and the left pupil are larger than the right. Both pupils react to light and accommodation. The hearing is good. Ophthalmoscopic examination shows the fundi to be normal. The pulse is 64, irregular in force and rhythm. The apex of the heart is pushed up into the fourth space, and situated about half an inch outside the nipple line. Otherwise the cardiac dulness is normal, as also are the heart sounds and the lungs, liver and spleen. The urine is acid, and there are no albumen, no sugar and no pus.

Dec. 5th.—The patient can slightly flex at the hip and knee on both sides. The movements are better on the left side than on the right, the knee jerks are both present, there is no ankle clonus, the toes are dropped.

12th.—There are analgesia, hyperæsthesia and thermo-anæsthesia in the same areas as above noted.

On Dec. 6th the evening temperature was 101° (previously it had been above 99.2°). During the next week the morning temperatures were normal, but the evening temperatures were high, 101° to 101.6°. During the following week the temperature was irregular, high ones in the morning and evening and varying from 101 to 104°.

14th.—Headache, face flushed. Pulse 129.

16th.—There is a large amount of pus in the urine. The tongue is furred. Pulse 150. Evening temperature 105°.

18th.—Patient drowsy. Rhonchial fremitus was felt, and riles and rhonchi were heard over both sides of the chest in front. Respiration 48, pulse 138.

22nd.—A rose coloured spot, resembling a typhoid spot, is seen on the abdomen, the abdomen is tympanitic, there is no diarrhoea, but the patient is under the influence of morphia; the tongue is dry and brown in the centre.

23rd.—The patient is troubled with a short, feeble, rattling cough, sputum is not expelled. She has great pain in the back in the right leg and right side of the abdomen. The spleen is a little enlarged and is felt below the ribs. Respiration 36, pulse 129. The patient is very drowsy. The temperature which had been falling for three days was 99° on the evening of the 23rd, and did not exceed 99 until Dec. 26th,

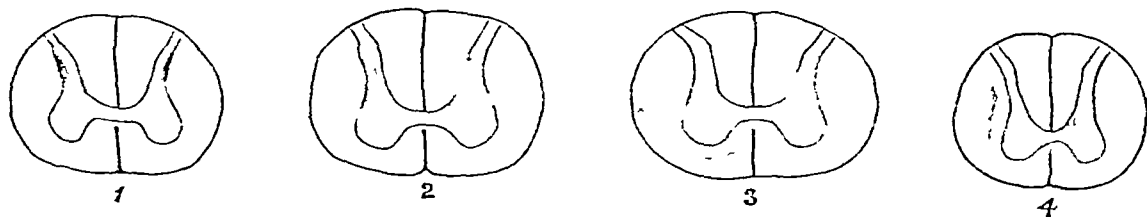
when it rose to 100.8 in the evening. The patient became very restless and excited, and died early in the morning of the 27th.

Necropsy.—The spinal meninges were normal. The spinal cord was soft in the lower cervical regions, firm at other parts, normal externally. On section the lower cervical region was soft, especially the grey matter. There were no signs of hemorrhage or of tumour growth, there was no abnormality of the vertebral canal. The pleural, pericardial and peritoneal cavities were normal. The heart, liver, kidneys and stomach presented no noteworthy appearances. The spleen weighed two ounces. There was extensive broncho-pneumonia of the left lung. The intestines were carefully examined, but only two small ulcers could be found. These were situated in the lower portion of the ileum, they were oval in shape, the long axis being parallel to the lumen of the intestine, and were situated on the side opposite to the mesenteric attachment, their edges were slightly raised. The ulcers and the mucous membrane around them for about half an inch were much congested. There was no perforation of the intestine and no blood in the intestinal canal. The spinal cord was hardened in Müller's fluid, embedded in celloidin, and sections were stained with aniline blue-black, logwood, osmic acid, and according to Weigert's method. The whole of the part of the cord affected by myelitis was cut into sections and carefully examined.

Microscopical examination revealed acute myelitis affecting the grey matter chiefly. The myelitis was limited to the lower half of the cervical region and the upper dorsal region (about the upper two-fifths). In the affected parts of grey matter the fine nerve fibres and ganglion cells were completely absent. The normal structure of the grey matter was replaced by cell infiltration and dilated bloodvessels. The cells were small and round, the size of leucocytes, with numerous very large compound granular cells—fat granular

around the left. In some of the sections the myelitis extended quite close to the antero-lateral ascending tract of Gowers on the right side, the anterior thirds of the white matter of the posterior median and posterior external columns on the left side were destroyed by myelitis at this level (Fig. 3). There was also a small area of myelitis in the crossed pyramidal tract of the left side along the course of a small vessel. Sections a little lower showed that the myelitis was mainly limited to the anterior horn on the right side, whilst on the left side the changes were the same as in Fig. 3. There was likewise a small area of myelitis in the right crossed pyramidal tract, in the upper dorsal region the myelitis became limited to the anterior horns and to the white matter just around, in some sections it was more marked on the left side, in others on the right, finally it became limited to the median half of each anterior horn and then disappeared. The lower three-fifths of the dorsal region and the whole of the lumbar region of the cord were normal. A number of sections were stained for micro-organisms according to Weigert's modification of Gram's method, and Loeffler's and Kühne's methods, but none were detected in the vessels or other parts, also in sections prepared according to Weigert's method for staining fibrin no stained matter could be detected in the small arteries.

Remarks by Dr. R. T. WILLIAMSON.—During life the case was looked upon as one of hematomyelia from the sudden onset of the symptoms. The affection of the bladder and rectum and the presence of analgesia proved that it was not simply one of acute anterior poliomyelitis. During the last twenty days of her life there were many symptoms pointing to typhoid fever, and her mother and a brother suffered from typhoid fever about the same time. The case shows that the suddenness of onset of the symptoms does not always enable us to separate spinal hemorrhage from all other organic diseases of the cord, except meningeal hemorrhage and hemorrhagic myelitis. The onset may



Area of myelitis shaded.

cells. The small vessels were very numerous, greatly dilated and filled with blood corpuscles. The nuclei of the capillaries were numerous. The walls of the smaller arteries were encrusted with leucocytes as were also the perivascular lymph sheaths of the vessels distended with them. In the parts of the white matter affected there was disappearance of nerve fibres and a similar cell infiltration with dilatation of bloodvessels. The changes were always most marked along the course of the vessels, especially around the commissural arteries and the anterior and mid cornual arteries. Where the myelitis was most marked—i.e. the lower part of the cervical region—the anterior median arteries were greatly dilated and surrounded by a thick coating of round cells. Careful examination failed to reveal the slightest hemorrhage or trace of old hemorrhage in any of the sections. The highest sections of the affected part (about the mid-cervical region) presented a small streak of myelitis (leucocytes, compound granular cells and dilated vessels) in each posterior horn of grey matter in the region of the posterior reticular formation (Fig. 1). There was also a great tendency for the posterior horns to break down in the sections, but the cell infiltration was limited to the parts just mentioned. The anterior third of each posterior median column presented slight ascending degenerative changes (increase of connective tissue and disappearance of nerve fibres). Fig. 2 represents the changes at a lower level, the myelitis extending slightly to the posterior external column on the left side. At a lower level the myelitis affected the grey matter extensively on both sides (anterior and posterior horns) but extended more posteriorly and was more marked in the posterior horn on the left side than on the right. Still lower (i.e. lowest part of cervical region) in addition to the changes just mentioned, the myelitis affected the white and grey commissures and extended into the white matter just around each anterior horn. The white matter was more affected around the right anterior horn than

be as sudden as in hematomyelia and yet examination of the cord may reveal myelitis only. Leyden has shown that pain is not a constant symptom in spinal hemorrhage and the case above recorded appears to furnish further evidence in favour of his statement that differential diagnosis between primary hemorrhage, secondary hemorrhage, and acute myelitis is sometimes impossible. It is not improbable that in some cases myelitis or spinal softening is due to thrombosis or embolism in the minute spinal vessels. It has long been known that occlusion of the small vessels of the cord by injection of inert powders into the circulation is followed by sudden paralysis and in the case above recorded the sudden onset of the symptoms strongly suggests as the initial lesion the occlusion of spinal vessels by a thrombus or by micro-organisms. As above mentioned, no thrombi or micro-organisms were detected in specially stained sections, but as only a comparatively few were treated in this way a small obstructed vessel might easily have escaped detection. The case is also interesting on account of the unilateral analgesia and thermo-anesthesia, whilst tactile sensation was retained. The sensory symptoms were those which have been regarded as characteristic of syringomyelia. Owing to the irregular distribution of the changes on both sides of the cord the case has not much bearing on the vexed questions of the path of conduction of painful impressions and the crossing of sensory fibres in the cord. One can say, however, that in this case of unilateral analgesia and thermo-anesthesia the lesion was one of the grey matter chiefly, and that the changes were most marked, and involved the posterior horn to a greater extent, on the analgesic side. On this side also the lesion extended at one spot to the anterior thirds of the columns of Goll and Burdach. In the lowest cervical and the upper dorsal regions the lesion of the anterior horn extended to the surrounding white matter on both sides.

DEVONSHIRE HOSPITAL, BUXTON

A CASE OF RAYNAUD'S DISEASE.

(Under the care of Mr ARTHUR SNIPTON.)

WHATEVER the exact pathology of Raynaud's disease may be there are now several cases recorded in which the disease appears to have commenced in consequence of injury. Dr Curtis¹ has described the case of a man aged twenty eight, who had received a severe blow in the abdomen from a capstan which was followed by gangrene of the lower extremities. The condition was diagnosed as due to sudden contusion of the solar plexus and splanchnic ganglia, which caused shock of the sympathetic system. Dr Pasteur² reported the case of a boy aged six, who had a number of attacks resembling Raynaud's disease after having been bitten in the leg by a dog. All these attacks commenced in the left hand. Anæmia and syphilis were predisposing causes in this case. A case is described by Dr Collier³ in which a purulent peritonitis, localised to the region of the solar plexus, had probably acted as the exciting cause. There are other cases recorded in which injury was apparently the starting point of the disease, as, for instance, one under the care of Lamotte—that of a man who received a blow from a stick on the arm and developed local asphyxia of the hand in consequence, but of the large number of examples of the disease published the proportion in which injury apparently started the mischief is small. We have published a series of articles on this subject in THE LANCET by Dr J. E. Morgan⁴ in which the disease is fully discussed and to this, and the contribution of Dr Barlow to the New Sydenham Society, we would refer our readers. It would be more satisfactory if the full account of this patient could be given on some future occasion, for the disease had nowhere extended beyond the second or asphyxial stage of Raynaud and in its nature it is progressive. For the notes of this case we are indebted to Mr H. Lloyd Davies, house surgeon.

J. H.—aged fifty seven, a carter, was admitted into the Devonshire Hospital, Buxton Nov. 2nd, 1892, with the following history. He had always been a healthy man until Oct. 5th last. On that day, whilst at his work, a mass of lime fell from a height on to him, knocking him down and partially burying him. He lay insensible for some time, but on regaining consciousness he was able after a while to walk home, though with great difficulty. Next morning he was unable to get up and go to his work owing to extreme weakness. From that time up to his admission the symptoms described below made themselves manifest. The following were more or less constantly present: Diminished surface temperature, with weakness of the extremities, inability to move the toes or to flex the fingers of the right hand upon the palm, and lividity of the ears. There was anæsthesia of these parts, extending in the case of the left arm to the middle of the forearm, in the right to about two inches above the wrist, in the legs it extended nearly up to the knee. The patient could feel the point of a needle when deeply inserted, but this gave rise to no pain. Other symptoms manifested themselves at intervals, generally about twice a day, viz. Extreme lividity of the ears, lividity of the nose and of the dorsal aspect of both hands, in the case of the right extending to the middle of the forearm, in the left to two inches above the wrist. A small area, about three inches in diameter, over the left shoulder became similarly affected. The lower extremities did not reach this asphyxiated condition, but became paler and colder. In all the affected parts during the exacerbations there was a sensation of numbness and of extreme cold. This condition lasted for a varying interval, and when passing off was accompanied by a sensation of heat, tingling and severe pain. At times the patient complained of giddiness and of feeling as he expressed it, "as if he were drunk." The symptoms varied a great deal in severity on different days. There was great mental depression, but the patient was a well developed, strong looking man and otherwise healthy.

Remarks by Mr LLOYD DAVIES.—I think that this case is interesting enough to be reported for the following reasons—the comparative rarity of the disease, the fact that it occurred in an elderly and previously healthy individual, and the peculiar nature of the exciting cause.

Medical Societies.

CLINICAL SOCIETY OF LONDON

Rhinoliths—Tophi in Inherited Gout at an Early Age—Uratic Deposits in the Conjunctival Membrane—Subphrenic Abscess in connexion with Perforating Gastric Ulcer

An ordinary meeting of this Society was held on Jan. 13th, the President, Sir Dyce Duckworth, in the chair.

Dr DE HAVILLAND HALL read a paper on a case of Rhinolith. The patient, a young lady aged sixteen, had suffered from a fetid discharge from the left nostril since the age of two and a half years. The left nostril was found to be almost completely occluded by a mass of stony hardness, the bulk being in the inferior meatus, but projections extended into the middle meatus. After several sittings the stone was removed piecemeal by means of the forceps. The largest piece was noosed by a wire loop and forcibly dragged out. The application of a 20 per cent. solution of cocaine much facilitated the removal. After washing and drying the fragments were found to weigh 92 grains. A chemical examination made by Dr Wilson Hake showed that the stone consisted of organic matter 28.4 and calcium phosphate 73.6 per cent. No nucleus was detected. Dr Hall remarked on the comparative rarity of rhinoliths. No specimen had previously been exhibited at the Clinical Society, and only four examples were shown at the Pathological Society. There are two specimens in the museum of University College Hospital and one each in the museums of St. Bartholomew's, Guy's, London and Westminster Hospitals respectively. In the museums of the Royal College of Surgeons and of the other hospitals with medical schools there were no specimens. He referred to an excellent monograph by Dr Max Sellmann of Carlsruhe, who had made a collection of all the pertinent literature, embracing a record of 110 cases, besides a few others of which he was unable to obtain full details. He concluded by giving the references of fifteen additional cases. The PRESIDENT asked what was the relation between the formation of rhinoliths and the occurrence of ozæna.—Mr PARKER remarked that the rhinolith, if pushed backwards, would not find its way into the larynx, but would probably drop into the œsophagus.—Mr W. G. SPENCER asked whether any special changes in the secretion of the mucous membrane of the nose had been found in connexion with these concretions and whether it was known what induced the precipitation of the phosphate of lime. Was there any difference in the reaction of the discharge?—Dr SOLOMON SMITH inquired if there was any objection to hanging the patient's head on the edge of the table, which would quite obviate the danger of a fragment when pushed back falling into the larynx.—The PRESIDENT asked if Dr Hall agreed with Dr Sellmann's proposition that vigorous blowing of the nose prevented the formation of rhinoliths.—Dr DE HAVILLAND HALL, in reply, said that if by ozæna was meant atrophic rhinitis that condition was probably inimical to the formation of rhinoliths because it increased the size of the nasal cavities, but the mere presence of rhinoliths would give rise to a fetid discharge. He thought himself that there was something in Dr Sellmann's suggestion that the feeble blowing of the nose common with women predisposed to the formation of concretions in that sex, but it must also be remembered that their formation was common in early life, when this difference in habit had probably not developed.

Sir DYCE DUCKWORTH read a paper on a case of Inherited Gout with production of Tophi at an Early Age. The patient, aged eighteen, a baker, came into St. Bartholomew's Hospital suffering from subacute gout in the hands and feet. He had had occasional attacks in the feet for nine years. There was a history of gout in his family. The patient was an ill developed youth with a small head. On both ears were numerous tophi, proved by chemical examination to consist of urates. The urine was of low specific gravity and contained a trace of albumen. There were no signs of cardiovascular degeneration or of lead impregnation. The case was considered to be one of inherited gout in spite of the negative history on this point. The patient was a total abstemious from alcoholic drinks and had certainly not been exposed to habits of luxury. Tophi at so early an age were known to be most rare, and no case of a like kind had come under Sir

¹ *Saunders* vol. II. 1890 c. 48.

² *THE LANCET* vol. II. 1889 p. 14.

³ *Ibid.* vol. II. 1889, p. 65.

⁴ *Ibid.* vol. II. 1889 p. 6 et seq.

Alfred Garrod's or his own notice. The case was believed to be one of atonic or cachectic gout associated with inadequate renal efficiency. A coloured drawing of the case was exhibited. Under treatment the active gouty symptoms subsided and the patient improved considerably in his general health.

Sir DYCE DUCKWORTH likewise communicated a paper by Mr. Davies Price of Nottingham on a case of Uric Deposits in the Conjunctival Mucous Membrane. The patient was a man aged seventy three, who had worked as a postboy, a cabman and a publican. There were numerous gouty deposits in and around the various joints of the body. These were, however, especially well marked in the phalangeal and metacarpo-phalangeal joints of both hands. Tophi were present in both ears. The general health was fairly good, with the exception of occasional attacks of acute gout. The history was one of alcohol and exposure. The family history was good and as far as could be ascertained free from gout. The condition of the conjunctival membrane of both eyes was very interesting, there being distinct chalky deposits on both sides. These uric deposits were for the most part arranged in small particles around and along the course of small blood vessels and their branches. The caruncula of each eye was also the seat of small deposits of gouty matter. The cornea was not invaded. There was no retinal change. A small portion taken from the conjunctival membrane gave the usual urexid reaction.—Dr. HADDEN inquired what was the earliest age at which true articular gout had been seen in children. He had not systematically examined the joints in all the necropsies he had made, but the youngest subject in whom he had found a deposit in the great-toe joint was aged twenty.—Dr. WILBERFORCE SMITH asked what were the President's reasons for believing that the kidneys were the seat of early granular change. Uric acid was only one of the factors which went to produce gout, a faulty condition of vessels was certainly also concerned in it. He thought that he had seen cases in which there were conjunctival spicules suggestive of uric deposits.—Dr. LONGMORE thought it not unlikely that gout might occur early in the children of gouty parents if they lived under unhealthy conditions.—The PRESIDENT said that he believed that his case was the earliest in which the presence of tophi had been chemically demonstrated. He condemned the study of gout from the pathological rather than from the clinical side. He thought that symptoms of gout were not rare at seven or eight years of age, and occurred in young women more frequently than was suspected. The patient's urine was of low specific gravity and contained a small quantity of albumen and the pulse was rather intermittent and irregular. The occurrence of conjunctival deposits seemed to be much rarer than the literature of the subject would lead one to believe.

Dr. F. G. PENROSE and LEE DICKINSON related cases of Abscess beneath the Diaphragm in connexion with Perforating Gastric Ulcer. They based their paper upon the notes of ten cases in which perforation of the stomach had resulted in the formation of an abscess confined within tolerably constant limits, to the upper part of the abdominal cavity. After referring briefly to the literature of the subject they showed that the ordinary physical signs of pneumothorax might be present, but not in the position usual to that condition. Most of the cases gave hyper resonance on percussion, amphoric breathing and the bell note over an area more or less confined to the epigastrium and the left hypochondrium. There was generally evidence of compression, either with or without pleural effusion, at the base of the left lung behind. The heart's apex was generally to a slight extent displaced. Sounds indistinguishable from pericardial or pleuritic friction, or both, were at times detected in some of the cases. The diagnosis of the cases was usually not difficult but certain thoracic complications, such as empyema, pyo-pneumothorax or pulmonary abscess, were liable to arise and might be very misleading. The limits of the cavity were found to be fairly constant and as follows. Above, the arch of the diaphragm, on the right, the falciform ligament of the liver, in front, the anterior abdominal wall, behind and below the left lobe, being adherent to the anterior abdominal wall and thus closing the abscess cavity at its anterior inferior angle, on the left the cardiac end of the stomach, the spleen and the diaphragm, there being a deep pocket of the abscess extending backwards between these organs. They stated that they had brought the cases before the Society in the hope that the surgical treatment would be discussed. They asked for information on the two following points especially

(a) How the deep pocket of the abscess in the direction of the spleen should be drained, and (b) whether it would be feasible to close the hole in the stomach wall at the same time that the operation for the relief of the abscess was undertaken.—Mr. WASHINGTON HAWARD referred to the case of a young woman aged twenty six who was brought into St. George's Hospital in a state of collapse from the perforation of a gastric ulcer in which immediate operation was undertaken and the patient was still alive though not well. The patient had suffered from long continued dyspepsia with some pain, but there were no hæmatemesis and no acute symptoms, till one evening immediately after food, when pain supervened, increasing in the course of the night. The abdomen was opened in the mid line at the upper part, and fluid and gas escaped, together with gastric contents. At the posterior surface of the stomach, at the larger end, an ulcer was found large enough to admit a forefinger. This could not be excised owing to the great inflammatory infiltration of the gastric wall. He therefore attached the aperture in the stomach to the abdominal wall and inserted a drainage-tube. A year previously he was operating on a case which had perforated some time before when he mistook the membrane lining the abscess for the gastric wall and attached the former to the wall of the abdomen, the patient sank and died two days later. In the case he first described, on the third or fourth day an acute suppurative parotitis developed which was of non pyæmic character. He thought that the leakage in most of the cases was gradual, setting up a limiting peritonitis. The difficulty of dealing with a gastric ulcer was much greater when the interference came at a late stage of the disease. A great danger was the imperfect drainage of the cavity, for this it would be wise to make a counter incision in the loin whenever practicable.—Mr. W. G. SPENCER mentioned a case he had seen in the Westminster Hospital, under the care of Dr. Sturges. A fluctuating swelling formed over the cartilages of the false ribs on the left side, and there was impulse on coughing. It was opened to the left of the mid line and a sinus tracked obliquely downwards to a large cavity in the region of the spleen. It drained well and ultimately healed. The best incision was one immediately beneath the sternum, for it admitted of good drainage and was less liable to open the general peritoneal cavity. A case he had seen under Dr. Hall seemed to suggest that cure had been brought about by the abscess discharging itself into the stomach or intestine.—Dr. SAMUEL WEST could not feel at all sure that the localisation of the abscess was so constant as had been suggested by Drs. Penrose and Lee Dickinson, he had certainly seen it pass over the liver presenting in the right front. As to the diagnosis, it was often a matter of great difficulty, there might be signs of pus in some part of the body and the indications might be that it was abdominal, but he quoted a case in which the symptoms became entirely thoracic, though the case turned out to be one of gastric ulcer with abdominal abscess after all. He remarked on the curious latency of the symptoms in some cases of gastric ulcer—indeed a number of them presented no symptoms at all. The diagnosis as to the cause of the local peritonitis might be made wrongly. A patient was admitted with typical symptoms of gastric ulcer followed by peritonitis. At the necropsy it was found that the perforation was of an ulcer of doubtful nature in the small intestine. There was a gastric ulcer present but that was not the cause of the mischief. He was a little sceptical of the feasibility of the surgical closing of these ulcers on account of their seat, their adhesions to the parts around and the condition of the gastric wall in the neighbourhood. He referred to another case in which a perforated gastric ulcer led to the formation of an abscess of enormous extent, reaching down nearly to the pelvis.—Mr. PEARCE GOULD referred to a paper by Dr. Coupland on this subject, and in one of the cases there recorded the abscess was on the right side, and it was so with another instance related by Leyden of Berlin. In the above paper there were particulars of a youth aged fifteen who presented the signs of an abdominal abscess on the right side. There was a tympanic area reaching up as high as the fifth interspace in the axilla and nearly obliterating the liver dulness. The temperature was high. He cut down and opened the abscess below the twelfth rib draining it from the loin, with a successful result. In another case of a woman aged thirty six there was a history of gastric ulcer then there was an onset of severe symptoms left pleurisy with effusion and a prominence appeared in the epigastrium, over this there was a tympanic note. He opened it in front, let out pus and gas and then excised a piece of the tenth rib

and drained it from behind. The patient died and at the necropsy another abscess was found in the base of the left lung. These cases were extremely grave, a successful issue being very rare, and their gravity depended to a great extent on the complicated nature of the cavity. As the pus lay usually behind the intestines, unless it were dealt with early and opened at a dependent point the prospect was not a brilliant one. In some cases better drainage would be obtained by turning the patient over on to his face. The abscess had a great tendency to spread upwards through the diaphragm.—Dr LEE DICKINSON, in reply, said that all the cases he had related were on the left side and strictly bounded by the falciform ligament. The cases he had read of on the right side were not associated with gastric ulcer. He did not admit that the diagnosis was so difficult as had been considered. In an anemic woman a sudden attack of peritonitis almost certainly indicated gastric ulcer which had perforated, and the only treatment promising success was immediate laparotomy, and many cases had revived in an encouraging manner under this method. Cases of this nature had been reported by Dr Sinclair of Manchester and by Mr Taylor of Birmingham. He related, in conclusion, a case in which it was believed that an abscess had formed without perforation of a gastric ulcer

PATHOLOGICAL SOCIETY OF LONDON

Multiple Papillomata of the Colon and Rectum—Cancers of Various Organs and Non-cancerous Mammary Cysts due to Psorosperms—Blood Tumour in a case of Haemophilia

AN ordinary meeting of this Society was held on Jan 17th, the President, Sir George Humphry, in the chair.

Dr NORMAN DALTON showed specimens of Multiple Papillomata of the Colon and Rectum. The case was that of a woman aged twenty eight, under the care of Professor William Rose in King's College Hospital. She had suffered from pain and from the discharge of blood and mucus from the rectum for about two years. Shortly before death a number of polypi were removed from the rectum, but the bleeding continued and proved fatal. At the post mortem examination the only lesions were in the large intestine and rectum. The bowel contained a good deal of blood. In the rectum there was a ragged area from which the tumours had been removed during life, but a few tumours remained, and there were others in the colon and a large group of them in the caecum. Each polypus consisted of a stalk which varied in length from two inches and a half downwards and was rounded in some cases and flat in others. Nearly all the stalks expanded at their free ends, some being bulbous and others like a fringe. These extremities were mostly soft and bleeding. Microscopically the stalk consisted of fibrous tissue and bloodvessels covered by normal mucous membrane, and the extremity of the same elements except that in some polypi there was a certain amount of glandular proliferation in this position. Microscopical examination of the base of the stalk showed that the tumours were simple outgrowths of the mucous membrane, there being no infiltration of the muscular coat. The recorded cases of multiple polypi of the large intestine and rectum showed that the growths were partly adenomata and partly papillomata, in fact, the tumours were outgrowths of the submucous tissue and mucous membrane and contained the elements of those tissues (i.e., connective tissue, bloodvessels and glands) in varying proportions. In the analogous villous tumour of the bladder the glandular element was practically omitted because the bladder mucous membrane was not rich in glands like that of the intestine. These tumours were not strictly speaking malignant, but cases had been brought forward which showed that occasionally they become so, infiltrating the muscular coat and reproducing themselves in other organs. In the same way the true ovarian cystoma, which was usually not malignant, might get into the peritoneum and produce a rapidly fatal form of cancer. The immediate cause of the development of so many polypi in the colon and rectum might be parasitic, but there was probably a congenital predisposition to their growth, as Mr Harrison Cripps had reported three cases which occurred in one family. Lastly, it was curious that these polypi, which so much resembled enormously hypertrophied villi, should occur in such numbers only on surfaces where there were normally no villi—i.e., on the mucous membranes of the large intestine and rectum of the bladder and of the uterus. He therefore suggested the possibility that one factor in their growth might be some developmental mistake, which, from some

cause or other, became continuous in after life.—Mr D'ARBY POWDER inquired if in the case shown there was a history of heredity.—Mr JONATHAN HUTCHINSON, jun., had seen two or three instances, and in one he operated and removed large numbers of polypi. Microscopically they were all adenomata. A case under Mr Treves of a patient aged twenty exhibited at the necropsy multiple polypi and numerous epitheliomatous ulcers side by side.—Mr STEPHEN PAGET mentioned the case of a youth aged seventeen who had been under the care of Mr Thomas Smith with multiple polypi and who ultimately died of hæmorrhage. The patient had two sisters suffering from the same disease, one of whom afterwards died, and cancer of the bowel, degenerating into colloid, was found.—Mr MAKINS referred to an instance in a girl of eighteen, and several polypi were removed. Two years later she returned with intestinal obstruction which proved fatal, and post mortem well marked columnar epitheloma was found.—Dr DALTON, in reply, said he was unable to ascertain anything as to the family history of the patient.

Mr J JACKSON CLARKE, who showed moist specimens, microscopic preparations and drawings, referred to his last communication to the Society (Dec 20th, 1892) and said that further experience had strengthened his conviction that psorosperms caused cancer. He had found, besides the capsule which appeared to be secreted by the host cell, that the parasite, by a condensation of the outer layers of the ectosarc, sometimes possessed a proper capsule, and this in some cases had the form of two concentric layers joined by radial bars. He had succeeded in finding the radial arrangement of protoplasm described by some other observers. In the cancer of the bladder secondary to one of the cervix uteri he had observed that the sporing took place in the centre of the new formed epithelial tubes and that the plasmodia and spores made their way between the epithelial cells into the supporting connective tissue, where they could be observed to have digested portions of fibres and cells. Spore formation did not always occur simultaneously throughout the ripe psorosperm, sometimes it began at the periphery or at the centre. In the latter case the spores might be mistaken for phagocytes. A cystic non-cancerous breast removed by Mr Edmund Owen from a lady aged fifty showed on examination that many of the epithelial cells lining the cysts contained large amoeboid psorosperms, while the cyst contents were made up of plasmodia and psorosperms with some fat globules and crystals. In another cystic breast, also removed by Mr Edmund Owen and similar to the one referred to, but complicated by commencing scirrhus cancer, the contents of the cyst, placed on the warm stage immediately after removal, exhibited active movement. A duct papilloma of the breast, removed by Mr Pepper from a girl aged fourteen, contained multitudes of psorosperms. An adenoma of the kidney also contained the parasites, chiefly in the amoeboid stage. In an encapsuled adenoma of the thyroid gland and two adenocarcinomata of the testes, psorosperms, chiefly in the plasmodial forms, had been observed by him (Mr Clarke) in every part of the growth. He had examined round celled, myeloid and melanotic sarcomas and found in them all absolutely overwhelming evidence of their being caused by psorosperms. Around the bloodvessels actively budding were numbers of free amoeboid and intra cellular parasites. The former clustered thickly around the new growing shoots of the bloodvessels. In the inter vascular areas were immense numbers of the parasites in the condensed highly refracting stage, and the same process of reticulation and spore formation he had described in cancers could be traced with the greatest ease in all the sarcomas examined. He insisted on the ease with which these "ripe" psorosperms could be recognised by focussing a little above the section, when their high refracting power caused them to appear as bright globes comparable to Darier's "grains." More than two thirds of the weight of a round celled sarcoma of the testis was accounted for by the psorosperms present. He computed that on an average at least one third of the weight of every one of twenty different cancers (skin, nasal septum, tongue, cornea, breast, uterus, bladder &c.) was accounted for by the parasites they contained.—Mr W G SPENCE referred to the microscopic specimens, in which he had been unable to recognise the characteristics which were held to distinguish them. It was true that Metchnikoff had pointed out that psorospermiosis in rabbits was associated with small celled proliferation but it did not follow from this that proliferation of itself was indicative of tumour formation. He instanced the proliferation of the ciliated

epithelium lining the central canal of the spinal cord, which was a common occurrence, but had nothing to do with the formation of new growths. He thought that most of the changes shown were cell alterations produced in the preparation.—Dr GALLOWAY said that it was at his request that Mr Clarke had brought up the subject again, his views being more matured. Supposing that it were taken for granted that the structures exhibited were psorosperms, he thought it was not shown that they went through the stages which were known to mark the development of psorosperms. The very name was unfortunate, as it was used by various writers in very different senses. He suggested that "protozoa" was a better word and less open to criticism. He did not think the specimens which had been shown could justly be compared with undoubted examples of psorosperms that had been previously exhibited. Even supposing the deductions were so far correct, it was not justifiable to go further and say without experiment that these organisms were the cause of cancer.—Mr D'ARCY POWER complained that the drawings did not represent what he saw under the microscope. The power used was very high and the mode of preparation new as applied to epithelium, and he maintained that it was scarcely as yet known what appearance normal epithelium would present under these conditions.—Dr G S WOODHEAD thought that Mr Clarke's postulates were a little in advance of the views that at present commanded acceptance, but he felt that Mr Spencer had gone too far when he attributed all the appearances to alterations artificially produced in the cells. He himself had studied a very large number of sections prepared by different observers and they all showed something which was absolutely different to anything that could be found in ordinary epithelial cells, but these were demonstrated by methods of special preparation and staining. It was possible that these bodies might be the causal agents of cancer—indeed, there was a certain amount of presumptive evidence that they were so, they also appeared to be parasitic. Though he had examined very carefully, in no case had he seen anything resembling a spore, the nearest appearance to this was the separation of a nucleus into two parts. He pointed out that numerous observers thought they had found protozoa in new growths, but the great majority had returned to the conclusion that they were dealing with altered cells, except in the specimens of the more recent observers who had adopted special methods of preparation.—Mr EDGAR WILLETT asked if these bodies had been found in healthy muscle or other normal structures of the body.—Mr SHATTOCK said that he and Mr Ballance had strongly maintained that cancer was a parasitic disease and that the parasite was probably a protozoon, but further evidence was necessary before Mr Clarke's conclusions could be accepted and he felt that Koch's four postulates must be fulfilled. The line of research now required was to endeavour to complete the cycle of the parasite outside the body and cause infection of animals from the parasite so grown.—Mr J JACKSON CLARKE, in reply, said that he used the term "psorosperm" because of its indefiniteness. These organisms were perhaps more akin to the hæmatozoa such as could be obtained from the tortoise. He deprecated searching for special shapes of the organism in different animals, they probably varied in form under different conditions. As to the important cycle outside the body, he did not recognise its necessity. He regretted the retrograde step taken by Drs Ruffer and Walker when they abandoned the idea of spore formation. He defined a spore to be an amoeboid psorosperm, arising from a ripe psorosperm. He quoted several instances of successful inoculation of both cancer and sarcoma.—The PRESIDENT said they had been yearning for years to be able to attribute cancer to some vegetable or animal parasite. It appeared to him that two things remained to be done first, the true nature of these organisms required to be distinctly and positively ascertained, and, secondly, the real relations they bore to the production of cancer should be made out. It was a disappointment to him to find that Mr Clarke was able to demonstrate psorosperms in a variety of growths which were not cancerous. The specimens were referred to the Morbid Growths Committee, members of the Society were invited to bring other specimens for comparison and the secretaries were desired to arrange that this should be followed by a meeting convened especially for the discussion of the subject.

Mr MAKINS related the history of a case of Hæmophilia, in which an enormous blood tumour developed at the site of a wound at the anterior aspect of the shoulder. The patient died of internal hæmorrhage and exhaustion. The tumour

extended vertically from above the clavicle to the hollow of the forearm bent at right angles across the chest and laterally from the arm at the side of the chest to mid sternum. It was coarsely lobulated on the surface, greyish red in colour and very coherent, as it could be freely manipulated without causing any breach of surface. The whole tumour was developed during seventeen days. It consisted of laminated blood clot, with developing connective tissue in its interstices.

Mr MAKINS also exhibited a Meckel's Diverticulum, removed from a case of acute intestinal obstruction in a child. The diverticulum, extinguiser shaped in outline, was perforated with thirteen small openings so as to resemble a sieve. Some of the openings were beveled at the expense of the mucous coat, others were sharply cut. It was suggested that these ulcers might either be the result of ulceration in a diverticulum of a similar nature to that seen in perforating appendicitis, or that they might be mere spots of local gangrene due to tension.

Mr JONATHAN HUTCHINSON, jun., referred to a case of a wound of the thenar eminence in a man which bled severely and which required, ten days later, ligature of both radial and ulnar arteries. The incisions for these operations also oozed profusely and they then discovered that the patient was a "bleeder."

The following card specimens were shown —

Dr F C TURNER. Sarcoma of both Ovaries and of Peritoneum in a Child.

Dr H. D. ROLLESTON. Gummata in Heart Wall.

PROVINCIAL MEDICAL SOCIETIES

BRADFORD MEDICO CHIRURGICAL SOCIETY.—A meeting of this Society was held on Jan 10th, Dr J H. Bell, President, in the chair.—Dr MAJOR showed preparations from Epithelioma of the Tongue, Dr FIFTH Abscess of Lung after removal of Malignant Growth of the Tongue, and Dr RABAGLIATI a Large Ovarian Cyst.—Mr PETTITT showed a specimen from and read notes of a case of Obscure Perforation of Gastric Ulcer. A large cavity, formed by adhesion of the stomach to the diaphragm, communicated with the stomach through a gastric ulcer.—Dr KERR read a paper on Monocular Symptoms in Hysteria. In functional cases he remarked that the retina was not at fault and that the key to the position is found in Schweigger's statement that "amaurosis fugax is not real but imaginary." The observation by patients of a pin held first at reading distance, then nearer and again further off is a satisfactory and delicate test.—Mr G H. DODD introduced a wool warehouseman who had recovered from anthrax of the right cheek. His pulse reached 160 and his temperature 103.8°. Anthrax bacilli were found in the serum of vesicles. The pustule was freely excised and solid zinc chloride applied to the raw surface. Sections stained by Gram's method revealed bacilli in great numbers in the upper parts of the corium, and not extending in the skin beyond the areola.—Dr BELL said these cases were at one time common, but now rare from precautions taken.—Mr HORROCKS recorded a case which recovered spontaneously.—Drs Rabagliati, Kerr, Lodge, Arnold Evans and Mr Pettitt joined in the discussion.

LIVERPOOL MEDICAL INSTITUTION.—At the annual meeting held on Jan 12th the following list of office bearers and of members of the Council and Pathological and Microscopical Committee was adopted.—President T R. Glynn, Vice-Presidents J Kellett Smith, E W Hope, James Armstrong* and Peter Davidson*, Hon. Treasurer J W Warburton, Hon. General Secretary W Macfie Campbell, Hon. Secretary to Ordinary Meetings G G Hamilton, Hon. Librarian T Bushby*, Council James Barr*, A O Harris, N E Roberts, C H. Shears, David Smart*, Henry Wilson, J M Chisholm*, T B Grimsdale*, Richmond Leigh*, Percy Marsh*, J Tawse Nisbet* and B J Phillips*. Microscopical and Pathological Committee J H. Abram, F H. Barendt*, A. Barron, T B Grimsdale, G G Hamilton, A. A. Kanthack*, F C Larkin, J R. Logan, R W Murray, F T Paul, W T Thomas and Joseph Wiglesworth. Auditors A O Harris* and A. Dunbar*. Those marked (*) did not hold the same office last year.

NORTHUMBERLAND AND DURHAM MEDICAL SOCIETY.—This Society met on Jan 12th, Dr J Adamson, Vice President, in the chair.—Dr D DRUMMOND showed (1) a man in whom the symptoms of Locomotor Ataxia had

developed at the age of sixty seven, (2) a girl with Ophthalmoplegia Externa, probably due to gumma situate in the sphenoidal fissure.—Dr ROBERTSON showed a man in whom he had excised the Drumhead and Ossicles on each side.—Dr LIMONT showed (1) the result of treatment by Resorcin in two cases of Favus, (2) a case of Sycois of twelve years' duration approaching cure.—Dr BRAMWELL showed Diseased Ovaries removed from a patient the subject of Friedreich's disease.—Mr WILLIAMSON showed Gangrenous Cæcum and Ascending Colon removed by operation from an acute case of Volvulus, and gave details of a number of his recent cases of abdominal section for intestinal obstruction.—Dr DRUMMOND showed an interesting specimen of Tumour of the Pons involving the Crus, the right third, fourth, fifth, sixth and seventh nerves and the left third nerve.—Dr PEROVAL showed (1) Permanent Preparations of Diseased Eyes, including one of Leucoma and Adherent Iris and two of Detachment of the Retina, (2) Pocket Test for Colour Blindness.—Dr MURPHY showed (1) Uterus and Fibroid successfully removed by an intra peritoneal method, (2) Ruptured Tube. Dr Murphy read a paper on the Importance of Early Operation in the Treatment of Intestinal Obstruction.

SHEFFIELD MEDICO CHIRURGICAL SOCIETY—This Society met on Dec. 22nd, 1892, the President, Mr Simeon Snell, in the chair. The following cases, notes and specimens came before the Society.—Dr COOKING exhibited two cases of Ataxia Paraplegia, both in married females, in neither of whom was there evidence of intra cranial disease or syphilis nor any neurotic family history or history of injury or exposure.—Dr PORTER read notes and showed photographs of two cases of Progressive Muscular Atrophy, in one of whom the disease commenced in the legs and in the other in the scapular muscles. He deprecated the tendency to multiply the types of this disease.—Dr WILKINSON read notes of a case of Acute Ulcerative Colitis, in which post mortem extensive and deep ulceration was found throughout the large intestine.—The PRESIDENT showed cases of Herpes Frontalis and Embolism of the Central Artery of the Retina, and read notes of a rare case of Associated Movement of the Eyelids.—Dr DAVY introduced a child with Hard Painless Tumour in the Left Epigastrium.—Mr RICHARD FAYELL exhibited an Ovarian Dermoid Cyst removed with safety during early pregnancy.—The following specimens were also shown: Descending Colon terminating in the Bladder, by Dr J. H. WILSON, Calcified Fibroid Polypus Uteri, Ulcer of Stomach, and Perforating Ulcer of the Duodenum, by Dr OWEN, Aneurysm of the Arch of the Aorta, rupturing into the Trachea, by Mr BROWNLOW.—The following gentlemen took part in the discussion: Drs Burgess, Stokes, Arthur Hall, Wilkinson, Clarke, Porter and Mills, and Messrs Jones and Coombe.—A meeting was held on Thursday, Jan. 12th, 1893, the President, Mr Simeon Snell, in the chair.—Mr SNELL introduced a young woman aged twenty-six suffering from Ophthalmoplegia Externa and Interna, with considerable proptosis. The palsy of the internal and external muscles was complete, the pupil being motionless and the accommodation lost. The cause of the proptosis was the loss of tension owing to the paralysed state of the recti and external muscles. There was no manifest history of syphilis.—Dr DYSON showed a case of Ataxia Paraplegia. There was a history of both syphilis and sexual excess. The man had suffered for twelve years, but the disease had got much worse during the last three months. The ataxia is present in both arms and in both legs.—Mr DALE JAMES brought forward a man suffering from Eczema of the Nails. When the patient first complained of this condition two years ago he was engaged in breaking up for firewood American bacon boxes loaded with salt and lard. There was a vesicular eruption on the hands for some months before the nails became affected.—Mr PYE-SMITH read notes of a case of Congenital Enlargement of the Thyroid Body. It occurred in a female child whose mother had suffered three and a half years previously from exophthalmic goitre and who still had an enlarged thyroid and slight proptosis. The enlargement gradually diminished without treatment and was scarcely perceptible at the end of a month, the head assuming its normal position.—Dr KERR related the notes of a case of Lymphadenosplenic Leucocytæmia. The patient was a man aged forty-five. Swellings in the groin and axillæ were first noticed seven months previously to his admission into hospital in August and he died in the beginning of November. The spleen extended nearly to the ilium and to the middle line. The blood showed a great excess of white corpuscles with diminution

of red. The symptoms returned after some improvement in an aggravated form, pneumonia supervened and the patient died. The histological change in the spleen and lymphatic glands was one of simple hyperplasia.—Dr MARTIN gave particulars of a case of Pelvic Cellulitis in which profuse diarrhoea ceased twenty-four hours after half-drachm doses of dermatol every four hours had been ordered.—Dr ARTHUR HALL read a short paper on Concussion of the Spine. He commenced by giving the notes of a patient (who had been shown earlier in the evening), a middle-aged woman addicted to drink. She had fallen down stairs in October, 1890, and one month later the symptoms of paralysis began in the arms and legs, which gradually increased until the paralysis was almost complete below the origin of the eighth cervical nerve. The patient improved very satisfactorily under rest, massage and large doses of iodide of potassium, with liquor hydargyri perchloridi, and she was now able to walk and perform her ordinary duties.—The following joined in the discussion: The President, Mr C. Atkin, Dr White, Mr Reckless and Dr Martin.

YORK MEDICAL SOCIETY—At a meeting of this Society for a discussion on Treatment by Suggestion, Dr Petch, President, in the chair, Dr MILNE BRAMWELL, in dealing with this subject, considered in the first place its therapeutic uses. Of these the works of Bernheim and others, he said, afford satisfactory evidence. He then cited illustrations from his (Dr Bramwell's) own practice, of which the following are condensed notes: Dipomania, seventeen years' duration, treated nearly three years ago, no relapse, chronic hyperidrosis, treated three years ago, no relapse, hysterical aphonia, of four years' duration, rapidly cured, pruritis vulvæ and eczema associated with chronic constipation cured by suggestion over three years ago after failure of medical treatment, no relapse. Reference was then made to the experience of Dr Esdaile, who largely employed hypnotism as an anæsthetic in Calcutta just before the introduction of chloroform. Cases had frequently occurred in his own practice where it had successfully replaced chloroform or ether. Regarding susceptibility to hypnosis, Dr Bramwell's personal results differed but little from those of Bernheim, Liébeault, Wetterstrand, Moll and Bénéus—the percentage of success being as great and the difficulties encountered much the same. The dangers of hypnosis were regarded as mainly theoretical. Cases had not yet been published in which hypnotism has been proved to do harm. Liébeault, with his thirty years' experience, and Bernheim in 15,000 cases had never observed bad effects. In no instance had Dr Bramwell seen evil results from hypnotism. His patients passed into a state of drowsiness and lethargy more or less profound, with or without partial or complete loss of memory of what had occurred during hypnosis, and with more or less complete anæsthesia during that condition. All else was the result of suggestion made during hypnosis. Efficient safeguards rendered, he said, improper influence or interference with will power impossible.—Dr KINGSBURY divided the dangers of hypnotism into those of mind, body and morals. As to the mental dangers, it had been recklessly asserted by many that hypnotic treatment produced instability of mind, but so far no proof of this had been offered. As to physical dangers, Dr Kingsbury had no knowledge of any. The moral dangers, however, could not be disposed of so flippantly. He thought they had been greatly exaggerated. He advised his hearers, however, never to hypnotise a woman except in the presence of a witness, and never to hypnotise except for therapeutic purposes.—Dr RABAGLIATI, Dr MEYERS, Dr YELLOWLEES and others advocated the investigation of hypnotism as a remedial agent and gave evidence from their own experience of successful results in cases treated by "suggestion."

ROYAL COLLEGE OF SURGEONS IN IRELAND
FELLOWSHIP EXAMINATION.—Mr Alexander Lane, M.R.C.S., having passed the necessary examination, has been admitted a Fellow of the College.

MEDICAL DEFENCE UNION, LIMITED—A Council meeting was held at 429 Strand, London, on Jan. 12th. Dr Purcell in the chair, when twenty-nine new members were accepted and various matters affecting the future conduct of the business of the company, including the presidency, the offices and the secretarial work, were referred to a committee with instructions to report thereon.

Rebels and Notices of Books.

The Structure and Functions of the Brain and Spinal Cord
By VICTOR HORSLEY, B.S., F.R.C.S., F.R.S. London
Charles Griffin and Co., Limited. 1892.

IN this volume are reproduced the Fullman lectures delivered by Professor Horsley at the Royal Institution in 1891. They are not designed, we are informed, as a monograph on the subject, but merely to furnish an elementary sketch of it. It is a pity, we think, that the scope of the present volume is not as clearly indicated in the title as it is in the preface. The former scarcely prepares the reader for the statement given in the latter that the present volume discusses the spinal cord and ganglia alone. The first lecture is historical and interesting, tracing as it does the successive steps by which our knowledge of nervous structures and their function has been gradually built up, from the crude ideas of Plato and Aristotle to the epoch-making experiments of Fritsch and Hitzig. Then follow lectures devoted to a description of the nervous systems of the lower forms of life, the simplest being taken first and then in turn those of gradually increasing complexity. The last six lectures—there are nine in all—are devoted to the spinal cord and nerve fibres in the Vertebrata. These are considered from the anatomical and physiological point of view, and many of the experiments which have marked advances in our knowledge are described clearly and graphically, so that the reader has not only the knowledge presented to him, but, what makes it all the more interesting, is shown the various phases through which it has passed in the process of growth to its present form.

The subject-matter, as will be seen, is interesting and the lectures as such must have been admirable. In spite of the numerous illustrations in this volume we miss the blackboard and the pointer, and this loss obtrudes itself all the more because the lectures are cast apparently in almost the very words in which they were delivered. They suffer, in short, from the disadvantage which all printed lectures must have, but more especially those which have been so abundantly illustrated as to have been almost of the nature of demonstrations. When we have said this, and that the occasionally somewhat slipshod language of the platform has now and then crept into type, we have said the little that can be said in disparagement of a most interesting volume.

Guide to the Science of Photo-micrography. Second Edition.
Entirely rewritten and much enlarged. By EDWARD C. BOUSFIELD, L.R.C.P. Lond. London J & A. Churchill. 1892.

IN no department of applied science are close attention to detail, careful observation, and patient application more necessary than in photo-micrography. At one time every amateur photographer with a slight knowledge of the use of the microscope looked upon photo-micrography as something to be lightly taken up and easily mastered, and many were the instructions that issued from such amateurs. Now, however, we have passed through that stage and most of us are willing to learn from any of the very few men who have made themselves thorough masters of this fascinating work. Amongst these Mr. Bousfield must take a high position, and all photo-micrographers will receive with pleasure the intimation that his book has passed into a second edition. Here we can trace a master hand, and a careful perusal of these pages will enable the long suffering micro-photographer to see where he has been going astray for months, the arrangement of his condenser, of his screens, of his light and of his object may one or all have been wrong, if so here he will find information as to the best way of putting any of

them right. As might be expected, most of the objects taken as examples on which to work are those met with in the biological or the pathological laboratory, and for this reason the information given and the advice tendered are for a wider clientele than is usually the case with works of this kind. After descanting on the advantages of photo-micrographic reproduction, Mr. Bousfield describes first the general photographic accessories. This is followed by a detailed account of photo-micrographic cameras and stands, after which he deals with the optical apparatus required—objectives, oculars, condensers &c.—with illumination, and then with special technique, exposure and development, following these up with a series of chapters on the photography of interesting objects, including bacteria and the like. Photo-modelling is also dealt with, as also the production of positives, lantern slide making, copying, enlarging, and lastly the photography of cultures of bacteria in test-tubes, with which he has been very successful. But, after all, "the proof o' the puddin's the preening o' it," as the Scotch say, and the samples we have of Mr. Bousfield's photographs on the frontispiece are so excellent that we can scarcely imagine anything better in the way of photo-micrographs, they are certainly equal to any reproductions that we have yet seen, and could only be obtained from very fine negatives. It is rather a curious fact, however, that although the use of the pyro-developer (Pringle's "1-2-3") is recommended throughout the book the examples given have without exception been developed with hydro-quinone, which seems to prove that in the hands of an expert any good developer may give first-class results.

As a practical manual this work will take its place by, and form a supplement to, the few other good works on photo-micrography already published in English.

Malignant Disease of the Throat and Nose. By DAVID NEWMAN, M.D. Edinburgh and London Young & Pentland. 1892.

EVERY item of information, especially from the clinical side, that can be given in the class of disease discussed in this book is of extreme value. Dr. Newman has had exceptionally good opportunities for collecting his evidence, and his writings are generally thoughtful, his reasoning logical, and his diction correct. The work now under observation is essentially clinical—a point to which exception can scarcely be taken, as the value of an author's statements can then be accurately gauged. But in Dr. Newman's latest work there are portions in which we wish he had been a little more systematic. Thus of fifty cases of malignant disease of the larynx observed by him we are given particulars of only eight, and we can scarcely believe that these comprise all the many subtle points in diagnosis that must have been presented to so able a practitioner. Nor do we think that in the eight cases of which details are given sufficient stress is laid upon the laryngoscopic appearances, although the author is strong in his belief that the laryngoscope is the only means of establishing an early diagnosis. But we consider more might have been said upon this early diagnosis. Thus on page 96 we are told that an ulcer had the characteristic appearance of an advancing epithelioma, although we are nowhere told what this characteristic appearance is. Again (p. 98) an interesting case is related, but as to diagnosis we are informed that "on laryngoscopic examination an epithelioma was observed," of which the apparent extent is mentioned, but nothing of the appearances, while on the following page we are again told of a large ulcerating epithelioma, of which scarcely any particulars are given that would help an inquiring student. No doubt these cases were all easy of diagnosis, but we might have reasonably expected to find in the book some help in the diagnosis of early and difficult

cases We are pleased to see that Dr Newman insists upon the dangers of removing portions of an intra laryngeal growth for purposes of diagnosis unless the patient has previously consented to a radical operation in the event of the microscopical examination proving malignancy. The points in the diagnosis of intrinsic from extrinsic laryngeal growths are admirable and the importance of the distinction is well emphasised. The subjective symptoms are all elaborately given, both in general and in the description of each case, but, as we have already intimated, the points of diagnosis afforded by the laryngoscope, which, if there be anything at all in laryngology, should be all important, are conspicuously insufficient. The remarks on prognosis are excellent. The portions of the work dealing with the surgery of the larynx and operations involving the eradication of malignant disease of the nose are, it need hardly be observed, very satisfactory. Dr Newman's treatment of the subject of malignant stricture of the œsophagus is most instructive, the description of a means of dilatation with tupelo tents being especially interesting. The conclusions as to the value of electrolysis in these cases are very guardedly given, the author telling us that his own experience is not favourable, but that he will not make further experiments until more experience in the use of electricity in other regions has been gained. The book is produced in a manner which reflects credit on the publisher.

LIBRARY TABLE

The Student's Handbook of Surgical Operations By FREDERICK TREVES, F.R.C.S., Surgeon to and Lecturer on Anatomy at the London Hospital, Member of the Board of Examiners of the Royal College of Surgeons, Examiner in Surgery at the University of Cambridge. With 94 Illustrations. London: Cassell and Co. 1892.—This is an abridgement of the author's larger and more comprehensive "Manual of Operative Surgery," and is designed for the use of students who are preparing for their final examination in surgery. The operations are described with commendable brevity, clearness and precision, and only the most essential details are given. The excellence of Mr Treves's "Manual" is generally recognised by surgeons, and the value of this handbook will not fail to be recognised by students.

The Mütter Lectures on Surgical Pathology Delivered before the College of Physicians of Philadelphia 1890-91. By ROSWELL PARK, A.M., M.D., Professor of Surgery, Medical Department, University of Buffalo, Surgeon to the Buffalo General Hospital. St. Louis: J.H. Chambers and Co. 1892.—These lectures were delivered in accordance with the conditions of the will of the late Professor Mütter, under which a series of not less than ten lectures on surgical pathology are delivered at the College of Physicians of Philadelphia. The subjects dealt with are those modern developments which have revolutionised our ideas of surgical pathology and may be described briefly as bacteriological. Dr Park has given in these lectures the results obtained by the many observers at work in the laboratories of two continents and the lectures are a storehouse of valuable information. The rather heavy and unattractive style of the lectures may prevent their being so widely read as their real merit deserves.

Transactions of the Ophthalmological Society of the United Kingdom Vol. XII. Session 1891-92. London: J. and A. Churchill. 1892. Pp. 237.—The papers contained in the volume before us show that those who are following this department of medicine are well abreast of their colleagues in other societies. The Bowman Lecture was delivered by Professor Leber of Heidelberg, who naturally took as his subject the occurrence of inflammation in the eye and the phenomena that accompany it, with which he has been for some years constantly engaged. The paper has wider relations than

with the eye alone and may be read with advantage by physicians and surgeons alike. The volume contains many excellent papers, amongst which we may refer to those of Mr Treacher Collins on the Minute Anatomy of Pyramidal Cataract, of Mr S. Johnson Taylor, on Hereditary Optic Atrophy, of Mr Holmes Spicer, on Retinal Vasculitis in Inherited Syphilis, and of Dr Beevor and Professor Horsley, on Traumatic Abscess in the Brain.

In the *Veterinarian* for this month the Anthrax Order of 1892 by the Board of Agriculture is published. This Order came into force on Jan. 1st and should be carefully studied by all cattle breeders and farmers. At the meeting of the Scottish Metropolitan Veterinary Medical Society held on Nov. 23rd, 1892, a most interesting and important discussion on bronchopneumonia and pleuro pneumonia took place. At present there is a difference of opinion between the Board of Agriculture and the veterinary surgeons of America and Scotland as to the nature of certain cases of lung disease the subjects of which have been condemned by the Board, the Board holding that they are cases of true "pleuro-pneumonia contagiosa," and Principal Williams and his supporters holding that they are cases of simple catarrhal pneumonia. The Scottish Metropolitan Society have suggested, therefore, that the matter should be referred to an independent committee, and, as each party in the controversy seems to be sure of its own position, some such method of procedure seems to be the only way out of the difficulty. It is certainly a very important question, and if the discussion does nothing else it may throw a little light on the pathology of diseases of the lungs in cattle. Proceedings of the various veterinary societies and the examination results of the Royal College of Veterinary Surgeons make up the greater part of the remainder of the number.

* * In the review of *Anæsthetics, their Uses and Administration*—by Dudley Wilmot Buxton, M.D., B.S., Member of the Royal College of Physicians, Administrator of Anæsthetics and Lecturer in University College Hospital. Second Edition. London: H. K. Lewis, 1892.—which was published in our issue of Dec. 17th, 1892, the book was, through a regrettable inadvertence, alluded to, and treated, as a "new manual," whereas it was in fact the second edition of a work published in 1888. We are glad, moreover, to find that our criticism with regard to the apparent omission of any allusion to two recent valuable contributions to the anæsthetist's armamentarium was undeserved, since Dr Dudley Buxton points out to us that they had not been published until after the second edition of his book had passed through the press. It is but fair to the author to add that the present edition of the work has been largely rewritten, is considerably increased in size and has some twenty fresh woodcuts added to its pages. We take the opportunity of correcting a printer's error which occurred in our review by referring to certain specific gravities the expressions "0.656" and "0.720" were used, they should, of course, have been given as 0.656 and 0.720.—ED. L.

METROPOLITAN ASYLUM BOARD—The number of patients remaining in the several fever hospitals of the Board at midnight on Jan. 10th, 1893, was as follows:—Eastern Hospital, 262 scarlet fever, 56 diphtheria and 34 enteric fever, North Eastern Hospital, 405 scarlet fever, North Western Hospital, 300 scarlet fever, 88 diphtheria and 14 enteric fever, Western Hospital, 257 scarlet fever, 34 diphtheria, and 12 enteric fever, South Western Hospital, 258 scarlet fever, 62 diphtheria and 19 enteric fever, South Eastern Hospital, 293 scarlet fever, 16 diphtheria and 1 enteric fever, Northern Hospital, 699 scarlet fever and 9 diphtheria, Gore Farm Hospital, 559 scarlet fever. At the London Hospital and at Guy's Hospital there were three cases, and at Charing Cross Hospital one case, of enteric fever. In the wards of the hospital ship *Atlas* there were 47 cases of small pox on the same date.

New Inventions.

A SIMPLE DEVICE FOR THE UTILISATION OF THE PRESSURE OF A WATER MAIN

MESSRS. C. AND S. FRANK of 10, Fore-street, E.C., have submitted to our notice a very ingenious and simple invention by which the pressure of water in the ordinary main can be utilised for a host of useful purposes. It consists of a hollow globe of metal (made in various sizes) into the neck of which is fitted a tube running within half an inch or so of the bottom. The tube at the top is provided with a tap, while the end of the neck is covered with a rubber washer. A thread is cut upon the outside of the neck for the screwing on and unscrewing of suitable jets. When it is desired to set the apparatus in action, the jet is taken off, and the top of the neck of the globe is pushed tightly against the water tap, the washer between preventing leakage. The water when turned on runs down the tube and partly fills the globe from the bottom upwards. In doing so the air originally contained in the globe is imprisoned and compressed by the rushing water until it attains the pressure of the main supply, when

equilibrium is of course established. The tap of the globe and of the main supply are then turned off and the apparatus detached. A suitable jet is next screwed on. The globe now contains water under a pressure of air equal to that of the main supply. If the tap be turned on, a fine, steady spray of water several feet high (the height depending of course upon the size of the jet) will issue from the jet until almost the last drop has been expelled from the reservoir—until, in fact, the air in the globe has expanded to its original volume. A fine jet will last for hours. It is obvious that by varying the kind of jet the apparatus may be employed usefully for an infinite variety of purposes. For example, it may be used not only as a table or garden fountain, but also for the purpose of a syringe or enema, a throat ear, or nose spray, a food injector, as well as also for the diffusion of scents, medicated vapours, disinfectants and antiseptics into the air of rooms. We have had the invention at work in THE LANCET Laboratory for some weeks, and we find that it not only gives a good jet of water at a convenient force but it acts also for a surprising length of time, while all that need be done when it is exhausted is to apply it once more for a few minutes to the ordinary pressure supply tap. The invention is one likely to afford valuable aid in the practice of surgical and sanitary science.

A NEW THERMOMETER CASE

This useful little contrivance is the invention of Mr Newton Dixon, the Secretary of University College Hospital. The figure shows at a glance the general features of this thermometer which can be attached to a key chain or



watch chain, for which the inventor claims the following advantages: 1. The thermometer is held in its case when the lid is removed by a clamp action which grasps the constriction above the bulb. 2. The temperature can be taken without removing the thermometer from its case, as it can be read through the slot provided for that purpose. (See Fig.)

3. The patient will bite on the case, thus preventing the bulb from being bitten off and swallowed, as sometimes happens. 4. Saving of time—being only one movement in taking off the lid, instead of three or four in the ordinary instrument. 5. Being provided with a ring through which a chain can be passed, the mercury can be easily shaken

down by centrifugal action in the following manner. Holding the end of chain between the finger and thumb, the thermometer case (with lid on to protect bulb of thermometer) being attached to the other end, whirl rapidly round five or six times in a circular direction, when the mercury will be found to be replaced.

INSURANCE AND INEBRIETY

THE second of a series of lectures on inebriety was delivered by Dr Norman Kerr on Tuesday last in the rooms of the Medical Society of London. The subject was "The Relations of Inebriety to Insurance." The lecturer dealt first with assurance against accident. In the usual provision, in accident assurance, of intoxication invalidating a claim, two legal points were involved, one, the establishment of the allegation of drunkenness at the time, the other, that the accident was the true cause of death. On the point whether the assured was drunk, cases were cited showing remarkable conflict of evidence. It was not necessary that the assured should be under the influence of liquor at death. Some offices would not assure publicans, others took them at a considerably enhanced premium. In one case of alleged death by accident the company were successful on the showing that the man was "rotten" with drink and died of alcoholic disease, though a coroner's jury had returned a verdict of accidental death. In life assurances, cases were cited to prove that concealment of intemperance and of delirium tremens was fatal to a claim. In one case on this plea a policy was voided during life. In one case, concealment of a secondary effect of intemperance established resistance, in yet another no report as to habits was fatal. In other cases where there was a mass of evidence indicating intemperance the verdict was against the company. The lecturer dwelt on the interpretation of the word "intemperance," pointing out the opposing views of witnesses and held that there was intemperance which killed but did not make manifestly drunk. Opium re assurance was touched

upon, Dr Kerr stigmatising this drug as destructive of life. As to the commercial relations of assurance, more than a half of inebriate artisans, and at least a third of inebriates of the middle and upper classes were assured. There were two classes of inebriates assured—the inebriate after and the inebriate before assuring. The former generally became drunkards unknowingly and slowly. The loss from both classes was very heavy. Concealment was not always designed. The loss was now borne by policy holders, which was unfair to abstaining lives. To meet this difficulty some offices charged less premium to abstinents. Some diseased inebriates were limited drinkers. There was no standard of intemperance. The initial alcoholic lesion was difficult to detect. As inebriety ages prematurely, a good plan would be to age the policies of drinkers. There should be a loading of "moderate drinking" lives. A new point was the assurance of reclaimed inebriates, whom some offices would not accept. Dr Kerr approved of acceptance after a minimised period of probation of five years in cases of five years standing, with half a year added for every additional year's indulgence. With opium cases the minimum term might be less, with half a year added for every two years' addiction. Chloral and chlorodyne should rank with opium, chloroform and ether with alcohol. Then the lives of the assured ought to be loaded—as regards alcohol with five years (with six months for each additional year of addiction). Policies might, too, be voidable on relapse, with return of the surrender value. The lecturer concluded with a statement of the heavy loss to assurance companies through concealed inebriety and dilated on the importance of the general acceptance of a workable definition of intemperance, the practice of assurance medical examiners presenting striking contrasts

THE LANCET.

LONDON SATURDAY, JANUARY 21, 1893

THE returns of small pox which are made in our columns every week show abundantly that this loathsome malady is continuing to invade fresh districts and at the same time raise the apprehension that we may yet witness a repetition of the extensive outbreak which occurred in Great Britain, as in other countries, two decades ago. Commencing nearly two years ago in a limited but persistent epidemic in the heavy woollen district of Yorkshire, it has not only continued to occur in that county, now extending and now somewhat abating, ever since, but during the latter half of 1892 it visited several towns in the neighbouring counties, and Warrington, Liverpool and latterly Manchester, as well as many other Lancashire towns, have in turn had to cope with exacerbated outbreaks of the disease. Across the border it has invaded Glasgow and Edinburgh, whilst in the north of England Newcastle, Durham and Sunderland have all been visited, and many towns and villages in the Midlands, notably Leicester, are also sufferers, whilst as for the metropolis, it has been visited more than once by the disease since the spring.

The ready manner in which small pox is communicated, the freedom of human intercourse, and especially the facility with which the disease can be introduced by tramps into common lodging houses and poor houses, lend little hope of its arrest until it has covered a far wider area than has at present been invaded. It is an important question which confronts us at this juncture. Is this country better enabled to resist such an invasion now than it was twenty years ago, or does this outbreak find us not much more efficiently prepared to cope with it? In general the answer to this question may be affirmative. There is no doubt that those who have the care of the public health are more fully alive to their responsibilities, and no town of importance is without provision—by notification, isolation, disinfection &c.—for fighting small pox. There is nevertheless a weak spot in England's armour which makes her only too vulnerable to this scourge. Contemporaneous with the period of comparative freedom from the disease there has been increasing agitation against the beneficent vaccination laws, and at the present time they are practically in suspense. In certain districts a large proportion of the children have been denied that protection which their very helplessness should bid us to bestow on them, and when to this is added the comparative laxity with which primary vaccinations are often performed in order to comply with the letter of the law, and the almost entire absence of revaccination except under the pressure of existing local small pox, we find circumstances which undoubtedly contribute to increase the chances of the spread of the disease and the infliction of great suffering.

Theoretically it might appear a simple matter to check an invasion of small pox directly its presence is declared in a locality. The value of the Notification Act in enabling the authorities to be promptly informed of its presence is being

tested in many parts of the kingdom, and we believe that the experience gained therefrom will lead to its general adoption. But even notification cannot meet those cases where the symptoms of invasion are comparatively slight, and where a few days' *malaise*, although sudden in onset and moderately severe in its course, is succeeded by comparative comfort when the scanty eruption appears, and the subject of the illness may never consult a medical man at all. It is just these mild and modified cases that are mainly responsible for the diffusion of the disease, particularly if, as often happens, the victim be a nomadic wayfarer, not very sensitive or observant of his bodily ailments. Then, again, even amongst cases that come under the medical practitioner's observation, there may be some of the characters which are obscure and difficult to interpret. When to such difficulties are added the highly contagious nature of the disease and even—as many facts seem to show—its infectiveness in the pre-eruptive stage, the wonder is not that small pox spreads but that it sometimes ceases to spread as rapidly as it arises.

There can be no doubt at all that promptness in notification followed up by equally prompt intervention of the sanitary authority in removing the patient to a hospital, in disinfecting and cleansing the infected house and in revaccinating all members of the household above the age of twelve as well as all known to have been in contact with the infected person, can do a great deal to prevent the disease spreading from such a centre. Isolation of households, if thoroughly and efficiently carried out, would be a further safeguard, but to rely upon it as a substitute for the protection afforded by revaccination is sure to prove delusive. The system is one which requires a considerable amount of co-operation in those subjected to it, and no amount of inspection or supervision of an infected household can take the place of thorough revaccination. Finally, as regards the diffusion of small pox from hospitals as a centre—so strikingly illustrated at Fulham, Hampstead and Sheffield—the lesson to be learnt is that such hospitals should be situated well beyond the area of inhabited dwellings. For whether, as these instances seem to prove the morbid agents are conveyed aërially in all direction around the centre where the poison is concentrated, or whether they be conveyed directly through the human traffic to and from the institution, the same conclusion may be drawn. Unfortunately in some districts it is not always possible to secure a free and open site for an isolation hospital, and too often the fever hospital is in the immediate neighbourhood of that used for small pox cases. If, as has happened in more than one place lately, there is an unusual demand for the accommodation of fever patients, the introduction of small pox into a hospital, although in a portion of the building set apart for that purpose, may have disastrous results. We have nothing but reprobation for those public bodies who are unprepared with any means of isolation for small pox at the present time. Too many of them pursue a penny wise, pound foolish policy, which finds them unprepared in time of epidemic, to their great cost in money, comfort and life, which a little foresight might have saved them. Happily this spirit of parochial parsimony is giving way to wiser and sounder economy, and in this respect, as in the greater efficiency of our public health

service, we stand on a higher plane to-day than in the days above referred to when small pox was so widely spread throughout the length and breadth of the land.

At the meeting of the Convocation of the University of London on Tuesday last Dr W J COLLINS was placed first, with 855 votes, on the list of the three graduates recommended for the vacancy on the Senate, whilst Mr HOWSE received 642 votes and Mr BENNETT 218 votes. Although Mr HOWSE obtained most of the medical votes, the graduates in the other faculties outnumbered those in medicine and gave Dr COLLINS a large majority. It is therefore quite clear that, although a graduate in medicine or in science is elected alternately with one in arts or laws, yet, owing to the large number of graduates in arts, the latter can always control the election to the Senate, and thus practically select the medical or science graduate to fill any vacancy that may arise on the side of medicine or science as well as on their own. The views of the medical graduates count for but little in the solution of the questions in which they are so deeply interested. Medical difficulties are not understood by the other faculties, and no removal of the grievances of the London medical student is to be expected whilst Convocation retains its present powers, for graduates in medicine and in science will be in a still greater proportional minority in every succeeding year. During the whole of the debate on the scheme of reconstitution, which was passed practically unaltered, only one speaker referred to the medical problem, and he showed how little he was impressed with the importance of the question by saying that the London medical degrees were quite satisfactory, that the Scotch and provincial Universities should no longer be allowed by Parliament to insist on a term of residence, but should be free to all comers, and these Universities should be compelled to raise the standard of their degrees. He completely ignored the whole of the evidence placed before the former Royal Commission, when the Commissioners deliberately reported that the medical degrees of the University were conferred on an honours standard and were not really pass degrees, and that this constituted a grievance of which the London medical student was justified in making complaint. They further suggested that some remedy ought to be found. Notwithstanding this weighty decision and the almost unanimous desire of the medical teachers in London that a pass degree should be available on fair and equitable conditions to medical students who are trained in our metropolitan schools, the other faculties in the University will not hear of any change. It is such action as this which makes a second University a necessity. The tradition of the present University involves merely a high examination standard, but this has served its turn, and what is now required is a local Teaching University in which training as well as examination will have due weight. This is recognised by every teacher in science and in medicine, but is obstinately ignored by graduates in arts and laws, most of whom get their knowledge from a study of books only. Dr COLLINS has been returned as an advocate for the retention of a high examination standard, and as a guardian of the interests of non collegiate students. Such being the view of the main body of the graduates of

the University, it is impossible to expect that Convocation will facilitate any reforms which would either improve the higher education in London or tend to remove the injustice from which the London medical student is at present suffering. The scheme of reconstitution which was passed on Tuesday aims at maintaining or even increasing the powers of Convocation and of adding teaching functions to the sufficiently onerous work which it at present undertakes. The first clause includes, in addition to its existing purposes, "the organisation of regular and liberal education throughout the British Empire, and especially in the metropolis and its neighbourhood, and the advancement of knowledge and encouragement of original research." The Gresham Charter asks only for power to form a local Teaching University, whilst Convocation is ready to organise liberal and regular education throughout the British Empire. An amendment to limit its function to the metropolitan area was lost, but it gave Mr BOMPAS, who led the opposition to the scheme of the Senate in May, 1891, an opportunity of pointing out that the existing University is an excellent Imperial examining board and as such has won a well deserved prestige, whilst what is now wanted for London is a Municipal Teaching University, and he showed that the two things could not be properly combined under one head. This is demonstrated very clearly in the proposals for the formation of a teaching staff. "There shall be a University professoriate and a staff of teachers and demonstrators. All appointments shall be vested in the Senate and shall be held during their pleasure. The Senate shall have power to appoint members of the teaching staffs of the Colleges or other educational institutions as University professors, teachers and demonstrators, with endowments from the funds of the University, on condition that the appointment to such chairs, whenever a vacancy occurs, should pass to the University." Is it really to be expected that the Teaching Colleges, in return for an endowment of a present professor, will submit to having the future occupants of the chair chosen by an outside authority? Again, the University of London has no funds and is dependent on the Treasury for every penny it spends. Lastly, does Convocation contemplate making every professor or teacher in the metropolitan schools a University professor, or does it propose simply to confer this title on only one or more selected individuals? In the case of professorships leading to practice, such as those of medicine, surgery, obstetrics, forensic medicine, and in those of the sister professions of law and engineering, this would be tantamount to saying that these University professors are the greatest experts in the metropolis. The injustice of such a selection needs no comment. It is obvious that no one outside the domain of arts could have brought forward such a scheme, and its unworkable character would render it useless either for negotiation or for compromise. It will hamper the Senate and can scarcely influence the Royal Commission.

THE General Medical Council exercised a wise discretion in leaving to the Registrar General the vindication of the law as respects the false certification of death in the melancholy case of MATILDA CLOVER. The offence is one against the Registration Act of 1874, which enacts (Clause 40 Section 2) that "any person who wilfully

makes any false certificate or declaration under or for the purposes of this Act, or forges or falsifies any such certificate or declaration, or any order under this Act, or, knowing any such certificate, declaration or order to be false or forged, uses the same as true or gives or sends the same as true to any person shall for such offence be liable on summary conviction to a penalty not exceeding ten pounds, and on conviction on indictment to fine or to imprisonment with or without hard labour for a term not exceeding two years or to penal servitude not exceeding seven years."

One explanation, we think, of the laxity that has occurred in filling up such certificates is to be found in the leniency with which the offence has been treated by the Registration authorities. Many cases have been entirely uninvestigated. Prosecutions have been declined and the offenders have come to think that the offence might be committed with impunity. Under the accumulating pressure of juries and the representations of the General Medical Council there has been of late a little more sense of duty exhibited in the Registration Department. The case of MATILDA CLOVER and the consequences of lax certification have roused public attention to the question as it has never been roused before, but even in this case the action of the Registration authorities would seem to have been very slow. At length, however, the matter has been brought into a criminal court and investigated with such care as the gravity of the case demanded. The facts are too recent and too well known to render it necessary to go over them again in detail. Suffice it to say that Mr ROBERT GRAHAM, L.S.A., was sent for, but was unable to attend the unfortunate woman, and that in his absence she was attended by the unqualified assistant of a neighbouring practitioner. The unqualified assistant being unable to give a death certificate, Mr GRAHAM gave one, the said certificate including the statement that he had seen the deceased on the 21st inst. (that is, of October, 1891), and that her death was caused by "delirium tremens and syncope." Mr GRAHAM had not seen the deceased on the 21st until after her death, and the servant of the house in which CLOVER died deposed that she (the servant) told Mr GRAHAM that the woman had had convulsions and that she believed a man had given her some pills. It is to be said, in extenuation of Mr GRAHAM'S offence, that he had quite recently been attending the unfortunate woman for delirium tremens and other complaints incidental to her drinking habits, and that he had nothing to gain by giving the certificate. It was fortunate for him, too, that several medical men were ready and able to speak favourably as to his character. It thus happened that, whilst there was no manner of doubt that he had been betrayed into a great error alike of judgment and of duty, he had erred with no selfish motive and in a way that a jury might consider as due to a mistaken sense of kindness. They accordingly found, after a short deliberation, that he was guilty of having given a false certificate, well knowing at the time that it was untrue, but they added a rider to the effect that he had acted with no bad motive and recommended him to mercy. The Recorder quite agreed both with the verdict and the rider, but he very properly proceeded to point out that the laxity in giving the certificate of death was

most serious and most reprehensible and an offence requiring full investigation in a court of justice, whilst, having regard to the recommendation to mercy and the evidence of good character, he ordered the defendant to be released on his entering into a recognisance in the sum of £100 to come up for judgment if called on, the judge added that in the event of any other similar case coming before him it would be necessary for him to take a very decided course of action.

This is a very clear note of warning and we hope it will be heeded by all medical practitioners. Cases of this kind are happily very rare, but the principle involved is very common, and, though the results of a false certificate are not always so disastrous as in this instance, they are often very serious. In any case, medical men must realise that the signing of a certificate of having attended on a day when they did not attend, or only attended after the death of the patient, is a very serious offence, and one not unlikely in the future to subject the offender to imprisonment. We shall not add to the defendant's pain in this case by emphasising his error. We congratulate him on the recognition of his good character and his well meaning motives. But we think it essential, in the interests alike of the profession and of the public, that this offence should not be ignored, and we are glad that the Recorder has intimated that in the future it will be severely judged by him. We look to the Registration authorities to play their part henceforth with decision and promptitude.

A PROSPECTUS which is being issued by the World's Congress Auxiliary of the World's Columbian Exposition sets forth a general programme of the arrangements which are being made for the holding of meetings during the progress of the Exhibition of persons interested in the discussion of current topics, moral, political and scientific. Thus while, on the one hand, the material exhibits will afford an embodied expression of the present condition of the arts and sciences throughout the world these gatherings will afford an articulate interpretation of the material record and present other aspects of thought which may not be amenable to representation through the medium of physical objects. The function of these Congresses will be, in other and official language, "to review the progress of mankind and state the living problems now awaiting solution." This is a very large commission, and anything less than the machinery of an international exhibition would be manifestly unequal to its execution. But the assemblage of persons from all parts of the world which is destined to take place in Chicago during the summer of the present year will afford unsurpassed facilities for the interchange of observations and opinions. It has been found upon previous occasions that such intercourse may be productive of the most valuable results. It was, for example, at the Congress of Electricians which assembled in Paris during the Electrical Exhibition of 1881 that the international standards of electrical measurement were fixed and the inconvenience of conflicting units in the literature of this science obviated for ever hereafter. Paris was fortunate in this particular. The general progress of events in the electrical world no less than the concourse of well known electricians in the French capital signalled the hour, and it would perhaps be too much to expect of Chicago

that she will be able to make an equally notable contribution to the advance of science in the time to come. But if not it will only be because the hour is not ripe for another equally momentous determination. The organisation sketched in the programme which lies before us is eminently well adapted to utilise the power which will be condensed for a few months upon the shores of Lake Michigan. A very comprehensive scheme of operations has been drawn up, and a procedure devised which should secure in large measure the object with which it has been prepared. That object is chiefly to obtain the results of mature thought in a form adapted for world wide publication. Hence it has been resolved to dispense with open discussion and to impose a strict time limit upon the prepared papers and observations which may be submitted at the various meetings. Through the exercise of a careful choice of representative speakers it is hoped to obtain contributions full of matter for the discussions, and by the time limit it is attempted to secure at once the use of a compressed style on the part of the speakers, which will greatly facilitate the subsequent publication of the proceedings, and a sufficiently large number of contributions to deal adequately with many sided themes.

Among the subjects specified for treatment in which our readers will naturally take a professional interest the first place must of course be assigned to the combined topic of Medicine and Surgery. The meetings in this department are assigned to the week commencing with May 29th, a date which will fall rather early in the year for foreign visitors to the Exhibition. Public Health falls later in the year and will occupy the attention of the Congress in October. It has therefore a better prospect of being successful from the international point of view. In another way also the public health discussions promise to be of greater interest beyond the United States than those in medicine and surgery, and for this reason, that in the sketch programme there is a prominence given to "homœopathic" and "eclectic" medicine which would hardly be assigned to them elsewhere than in America. The public health is a subject eminently amenable to the kind of treatment which these meetings for conference among the unofficial representatives of various nations are well adapted to promote and we hope to be able to record substantial results as the outcome of these deliberations. Some of the subordinate departments of medicine are included in branches of the scheme where they would scarcely be sought, and we think that it would be fortunate if, in the rearrangements which are sure to take place in the preparation of the full and detailed programme, these departments were to be restored to their natural position as branches of the art of medicine. These observations refer particularly to the hospital care of the sick, the training of nurses, dispensary work and the treatment of the insane, which are associated here with the discussion of charities and philanthropy under the aspect of Moral and Social Reform. It is, of course, impossible in the discussion of a vast number of topics of a comprehensive character to avoid all anomalies of classification, nor, indeed, are such anomalies to be feared except in so far as they may tend to withdraw certain topics from the hands of those who may be most capable of dealing with them.

Annotations.

"Ne quid nimirum."

THE LONDON POST-GRADUATE LECTURES

IN connexion with the London Post Graduate Course Sir Joseph Lister delivered a lecture on Wednesday, the 18th inst., in the Theatre of King's College Hospital, on the subject of Antiseptic Dressings. The lecture was eminently practical. A patient was shown who had been operated upon for a badly united fracture of the patella some five weeks before—in operation which, in view of the disastrous effects likely to ensue if septic suppuration occurred, would be unjustifiable unless the surgeon could be quite sure of avoiding septic contamination of the wound. Sir Joseph Lister addressed himself to the means by which constancy of aseptic results in surgical wounds could be attained. The introduction of septic material into a wound during operation in such a form as could develop septic mischief should be prevented and the wound should be treated afterwards in such a manner as to prevent the entrance of septic material subsequently. The two great points which advancing knowledge had revealed were, first, that the blood serum was not a good soil for the development of disseminated and washed microbes, and, secondly, that when these had found an entrance into the tissues, if not in too concentrated a form, they were disposed of by the process of phagocytosis. The practical result of this was that the surgeon might disregard microbes as they existed in air dust, an axiom which greatly simplified surgical procedure. What the surgeon had to contend with was the entrance into wounds of the grosser forms of septic material, such as existed on impure sponges, unclean instruments, dried pus on the teeth of dressing forceps, or the unclean material in the finger nails, or on the skin of the patient. There was a time, in consequence of Professor Koch's publication on the subject, when corrosive sublimate threatened to displace carbolic acid. However, Professor Koch—able as he was—was misled on a certain point and exaggerated the germicidal powers of corrosive sublimate. Sir Joseph Lister attributed the successful results obtained in his surgical cases whilst using corrosive sublimate to the fact that he had always covered the wound with a protective of carbolic acid for the prevention of irritation. In such form as could be used by the surgeon, the sublimate was far inferior to the solution of carbolic acid and water. M. Yersin by experiments made in 1888 ascertained that pure cultures of the tubercle bacilli on glycerine jelly when acted upon by different antiseptics showed that carbolic acid, 1 in 20, killed the bacilli in thirty seconds. At a strength of 1 in 100 they died in one minute, whereas corrosive sublimate, 1 in 1000, required ten minutes for their complete destruction. Further, Professor Crookshank had at his request injected at King's College laboratory certain guinea pigs with pure cultures of the most resisting form of tubercle bacilli—that prepared from human sputum. He also injected other guinea pigs with similar cultures, which had been treated before injection with solutions of carbolic acid and water of different strengths. The injections were made into the skin of the thigh, and the results, when the animals were examined on Tuesday last, demonstrated that whilst the untreated tubercle bacilli readily gave rise to tubercularisation the samples which had been treated by carbolic acid solutions of a strength greater than 1 to 100 effectually prevented this. Regarding dressings he said that in the absence of antiseptics dry rags kept the soil less favourable for the development of microbes than water dressings. Iodoform had been very much praised by some surgeons, and

it was a very peculiar antiseptic, exerting comparatively little antiseptic power outside the body. It had been ascertained that a growth of organisms could be obtained from iodoform itself. It, however, undoubtedly possessed a remarkable antiseptic effect in the tissues. On the field of battle it was a question whether this was not the best agent at the disposal of the surgeon, but other means, if possible, should be preferred. The best arrangement was the employment of a chemical antiseptic which would securely prevent septic material getting into the wound. Three conditions were necessary in such an agent—it must be antiseptic, it should be in such a form that it would adhere to the dressing and not be washed away between one dressing and another, and it was very desirable that the material should not be irritating. Sir Joseph Lister pointed out that on the whole a combination of gauze steeped in a solution of carbolic acid of 1 to 20 and subsequently dusted over uniformly with cyanide of mercury and zinc fulfilled these three conditions most efficiently. He demonstrated the mode in which the surgeon could himself prepare this dressing at a cost not exceeding 4d per dressing. We propose to publish Sir Joseph Lister's very interesting lecture *in extenso* in an early number.

THE PREVALENCE OF SMALL-POX

THE number of localities from which news comes of small pox is steadily increasing, but as yet the disease has not exhibited any tendency to diffuse itself rapidly and on a large scale except in a few places. Perhaps one of the main difficulties that has for the moment to be faced is the movement of tramps to and from infected places and workhouses. In a number of workhouses the disease has already broken out, and this in turn gives prominence to an old dispute as to who is to look after a small pox patient when he is a pauper. Clearly the sections of the Public Health Act, 1875, which deal with the prevention of infection never intended that sanitary authorities should isolate the infected non pauper and that the poor law guardians should not be required to deal in the same way with the infected pauper. Isolation is a function carried out in the interests of the public health as a whole and not of the health of a particular portion of the community. But, notwithstanding this, certain difficulties arise owing to rules affecting the administration of the poor law. The guardians are bound to see that paupers and destitute persons are provided with proper accommodation, nursing, food and treatment when ill from any disease, and hence probably the suggestion contained in Section 132 of the Act which implies that in the case of a pauper any debt for his maintenance is recoverable not from the pauper himself but from the guardians. But have guardians any such function in dealing with infectious cases as carries with it requirements involving the protection of the public health? Again and again has this subject been discussed, but, whilst it has never been definitely decided that the poor law authority has any such function, it is perfectly clear that the duty of providing isolation hospitals for the use of "the inhabitants" is a duty cast upon sanitary authorities. At several places in the north, and notably at Rotherham, this question is now pressing in an acute form, and it is likely to arise elsewhere, because, whilst guardians still have their duties to perform towards the sick pauper, the rural sanitary authorities have rarely availed themselves of the permissive power of erecting infectious hospitals, by which alone they can secure isolation. Another feature of the prevalence is the rush after temporary hospitals, which in our climate are unfit for permanent use, which have often acted as a mere block in the way of the provision of proper hospitals, and which are often deemed to be a first necessity when so preventable a disease as small pox occurs, whereas no means of isolation are thought of when the other specific fevers, which

cause an infinitely greater mortality than small pox does, are continuously occurring in our midst. Unfortunately too, the usual difficulties as to diffusion of small pox from hospitals are also transpiring, the most notable instances during this epidemic being the diffusion which has resulted either to the population generally or to patients in other ward blocks, or to both, at Warrington, Leicester and Oldham. In the meantime, as we have pointed out, the disease is extending and the country is unprepared to meet the emergency both as regards proper hospitals and efficient general re vaccination. Amongst the places from which news of small pox comes are the following: Acton Grange, on the Manchester Ship Canal, Bentham, Brimington, Bromsgrove, where the disease appeared in a common lodging house, Castleford, where importation from Leeds is suggested, Chadderton, near Oldham, where 20 fresh attacks were recorded last week, Cleckheaton, Chestrele-Street, Chapel en le Frith Workhouse, Densby Main, Dewsbury, Frodsham Marsh, on the Manchester Ship Canal, Gateshead and Houghton le Spring, where cases are arising in the workhouses, Halifax, where 13 new cases have occurred, some in the workhouse, Hartlepool, where common lodging house tramps are affected, Hexham workhouse, Huddersfield, model common lodging house, Keighley, Lancaster, Leeds, where 53 cases were under isolation last week, Leicester, where a sudden exacerbation has taken place, 21 fresh cases being reported last week, with further attacks this week, Louthwaite, Macclesfield, Manchester, where the disease is extending and a new hospital is to be erected, Mexborough, Middlesbrough, Northallerton rural district, Nottingham, Ossett, Oldham, where 12 fresh attacks occurred last week, Pontefract, Rotherham, where owing to the workhouse being infected Dr Downes of the Local Government Board is advising the guardians, Runcorn, Southampton, where 13 new cases have just occurred, Stamford, Stockton, Sunderland, where the disease appeared in the casual wards of the workhouse and in a common lodging house, and where 5 new attacks occurred last week, Todmorden, West Halton, and Winterton, in North Lincolnshire. Between 50 and 60 cases are under treatment in the hospitals belonging to the Metropolitan Asylums Board. Small pox is also spreading in various parts of Scotland and notably in Glasgow where 34 new cases have occurred within ten days. The story is a serious one at this especial season of the year. No newly improvised hospitals can be expected to stay the spread of the disease, there is only one real remedy—namely, vaccination and revaccination of all who are upwards of twelve years old, and resort to this protective should be urged by all medical practitioners and public officials.

RESISTANCE TO COLD

THE death of a centenarian Italian in a Norfolk town the other day, whose chequered life-history included service in Napoleon's "Grande Armée" during the disastrous Russian campaign of 1812, recalls attention to the fact that, of all that host, the Neapolitan contingent, 10,000 strong, withstood the cold and privations much better than the other divisions, recruited as these mainly were from North western and Central Europe. So interesting and unexpected was this phenomenon, put on record by Baron Larrey, head of Napoleon's army medical staff, that the physiologists and hygienists of the time hazarded many explanations of it—explanations revived and checked during the Crimean campaign forty years ago, when again the Italian regiments of the allied forces were found to suffer less from the Russian winter than their French or even British comrades. The view taken of the fact was this: that the Italians, born and reared in the sunny South, retained so much "caloric" in their systems that their supply of it continued long after their fellow soldiers from less favoured climes had used up

theirs In support of this the experience of other Italians was invoked who, as teachers or artists had settled in English or Scottish educational centres and whose power of weathering the first northern winter was much greater than during the second and third, by which time, it was contended, their supply of "caloric" was exhausted and they were fain to have recourse to the creature comforts for which at first they had a positive repugnance. Australian colonists and Anglo-Indian officers, on their return to the mother country cited their experience in a similar sense, and Claude Bernard's "*Chaleur Animale*" (1876) came afterwards to translate those popular induction into scientific language. No doubt during those Russian campaigns the Italian troops, new to such a climate and to such winters, felt the keenly oxygenated air as a stimulating, restorative influence rather than as a depressing one, and all through the several weeks of their subjection to the novel conditions the "systemic response" to these declared itself in a heat production considerably in excess of the heat loss. The question of course arises—could that "systemic response" continue at its maximum of force the second winter? Experience answered in the negative, and the testimony of Italian civilians resident in the British Isles, as well as of the Australians and Anglo-Indians aforesaid, points to the same conclusion. One element in the explanation of the phenomenon, however, must not be overlooked, and that is the greater temperance of the southern as compared with the northern European. To the former—and this was especially marked in the disastrous retreat from Moscow—the abuse, or even the sparing use, of alcohol was all but unknown. This abstinence put the Italian at a mighty advantage over the northern soldier, who, as Sir Walter Scott has placed on vivid record, flew to cognac or vodka whenever they could get at it, and considered themselves happy if they could purchase 'some hours of insensibility by intoxicating liquors. Then again, Italians in general and Neapolitans in particular, inured to the scantiest meals of macaroni and salad, felt the starvation diet of the forced marches much less than their French or Teutonic comrades. The same must also be said in the matter of clothing—the Neapolitans, even in abnormally cold winters, contenting themselves with an artificial warmth in raiment and fuel much below that to which the northern races are accustomed.

PROFESSIONAL EXCLUSIVENESS IN SWITZERLAND

By her own confession Switzerland relies on the foreign visitor for a very large proportion of her revenue. In seasons when this "import" is "conspicuous by its absence" the disappointment and dismay throughout the cantons soon find a voice. Apart from hotel keeping—that is from providing for the import in question—there are not many lucrative enterprises in Switzerland—a fact which was illustrated some fifteen years ago when she had an exposition of native industries. So poor was that affair that her apologists were fain to account for it by the fact that nearly all the young energy and talent of the people go into hotel keeping and that all other interests particularly the manufacturing and artistically productive ones were proportionately impoverished. Such being the case, it is surely ill advised as well as ungracious on her part to adopt the exclusive policy she enforces against one adjunct of the "foreign" visitor—to wit, the medical practitioner—who accompanies him. The columns of THE LANCET have frequently borne testimony to the severity of cantonal law as exercised on the British physician or surgeon who ventures on professional work in the chief places of tourist resort, and now we have a similar complaint brought from another nationality against the same exclusive spirit. Italian Switzerland, represented by the Canton Ticino with its headquarters at Bellinzona, has just met in Grand Council and has carried a law

forbidding the practice of medicine, pharmacy, dentistry or the veterinary art to all unprovided with the federal diploma. This enactment bears heavily on the practitioner from the Italian schools whose professional qualifications have hitherto been recognised—and justly—in the Canton Ticino as equal to those of the federal examining boards. Physicians and surgeons who have found much acceptance with their respective *clientele* must if they have the misfortune to have graduated in a non Swiss, though possibly superior, school, be henceforth precluded from practice unless they submit to the inconvenience and expense of passing a Swiss examination. Surely registration as a duly qualified British, French or Italian practitioner should satisfy the Confederation of its possessor's right to visit patients of his own nationality without the exaction of a federal diploma. Should this exclusive policy be persisted in, Switzerland must not be surprised if the stream of tourist travel flows away from her borders and seeks new holiday or health resorts in adjacent countries where more liberal laws prevail.

THE RIGHT OF THE PUBLIC TO DEMAND INSTANT ATTENTION FROM MEDICAL MEN

At an inquest touching the sudden death from aneurysm of Elizabeth McCarthy, aged fifty seven, at the coroner's court, High-street, Borough, an indignant juryman waxed very warm over the absent parish doctor because he did not respond to the message sent. On the coroner saying that a parish doctor might require an order before attending a case, the juryman considered "it disgraceful" and thought "we ought straightway to stop our rates." He pointed out very properly that if in a case of ruptured varicose vein a medical man promptly obeyed the call life might be saved and *vice versa*. The medical officer at whose expense this cheap moralisation was delivered was not present to state his case. We would only say that practically the medical man does respond promptly, as no other man does to the cry of pain and peril—"his ready help is always nigh." And very little does the public care to see the other side of the account stated and its own duty enforced. We would urge the juryman in this case to use his energy in the study of other parts of this great question and to procure for the public, by proper and just arrangements the right to summon the first available medical practitioner in cases of emergency.

THE VACANT CORONERSHIP FOR CORNWALL, WESTERN DIVISION

THE local county council will shortly have to elect a coroner for this district. For the vacancy there are five candidates, three of them being solicitors and two members of the medical profession. The two latter are Mr Richard Charles Mason Pooley L.R.C.P., L.R.C.S.I., of Falmouth, and Mr Arthur Edward Permewan, M.D. M.R.C.S. Eng. Dr Permewan also possesses a qualification in State Medicine from the London University and is likewise a diplomate in Public Health of Cambridge. Leaving the county council to decide between these two gentlemen, we proceed to reiterate the reasons why they should elect a medical in preference to a legal candidate. There never was a time when death certification was more on its trial than it is now and the most responsible duties which coroners have now to perform are those of deciding whether an inquest is or is not necessary, whether medical evidence is to be received and whether a post-mortem examination should be made. Should an inquest be considered unnecessary the coroner is required to inform the registrar of the sub-district of this and also as to what is the supposed cause of death. Let us assume that a solicitor without any previous medical training is elected to perform these duties, it is manifest that he is as perfectly ignorant of them all as a medical

practitioner would be of the duties of a town clerk. The viewing of the body, the preliminary inquiries, the weighing of statements as to symptoms during life and of appearances after death, are all matters in which solicitors have no previous training and with which they are perfectly incompetent to deal. For some time after their election legal coroners have to learn their duties with such coaching as they can obtain from the beadle or coroner's officer, who in his turn is quite incompetent to perform any but the most subordinate duties. Moreover, when inquests are held they show their want of medical training, hence it is that so many useless inquests take place and so many ridiculous verdicts are returned. The medical coroner who has studied State Medicine and who has had some experience as a witness in coroners' courts commences his duties under very different auspices. The viewing of the body is a duty to which he comes as an expert, having been trained to it from the day when he first became a medical student. Years of study have made him thoroughly acquainted with disease and death in all their forms, whilst as to the taking of evidence the treatment of disease and injuries is "a taking of evidence" of the most searching kind. We hope that the county councillors who have to make the appointment will keep strictly before their minds what is the object of every inquest which the new coroner will have to hold. It is to ascertain the cause of death, how when, and where it was caused. This can only be done with entire satisfaction by a coroner who has had a complete medical training, and who has been prepared for the legal part of his duties either by the study of State Medicine or by considerable experience as a witness in the coroner's court and as an expert in the making of post-mortem examinations.

STUDENTS IN THE SCOTTISH UNIVERSITIES

THE *Edinburgh Evening Dispatch* of Jan. 12th, 1893, gives the following interesting statement of the numbers of matriculated students in Edinburgh University for the past four years—

Year	Arts.	Divinity	Law	Medicine	Total
1880 --	981	124	472	2025	3602
1890 --	940	110	408	1679	3536
1891 --	942	88	495	1830	3354
1892	881	82	490	1715	3138

Total diminution during the four years, 464—made up of 100 arts, 42 divinity, 12 law, 310 medicine. The corresponding figures of Glasgow University are as follows—

Year	Arts.	Divinity	Law	Medicine	Total
1880	990	95	192	818	2101
1890 --	996	88	197	770	2053
1891	972	93	206	820	2091
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Net diminution during the four years, 106—made up of 55 Art, 6 Divinity, 58 Medicine—less increase in Law, 13. The foregoing figures do not, in the case of either University, include students enrolled in non curriculum classes on payment of 5s fee, or include female students. For the current session 127 women are matriculated at Glasgow and 70 at Edinburgh.

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urgent cases, numbering 140, varied from £5 to £20 and amounted to £1657, and the sum of £2030 was bestowed on annuitants of over sixty years of age. The whole organisation of the fund was carried on, as before, by voluntary workers both in the collection and distribution of the funds. The report was received and votes of thanks were passed to the President, to Dr. Broadbent (treasurer), to Dr. Sidney Phillips and Mr. Edward East (hon. secretaries) and to the auditors, the medical press, and others connected with the working of the charity. Drs. Prickett, Bowles, and F. Taylor and Mr. Parker Young were elected members of the committee, and the following Vice Presidents were also elected: Drs. Holman, Felce, Birkbeck Nevins and Messrs. de Styrap and Terry.

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Two deaths have been recently reported as occurring when ether had been administered, but in both instances the fatalities appear to have been rather due to the state of exhaustion in which the patient was at the time of the administration than a direct result of the ether. In the one case, which occurred a week or so back at the London Hospital, the patient, a billiard marker, had suffered for some years from an internal complaint. His medical attendant directed his removal to the London Hospital. He was admitted in a very feeble state and in great agony, and, an operation being imperative, Mr. Treves directed that an anæsthetic should be given. Ether was selected as giving the man the best chance in the critical condition in which he was. The patient went on well for eight minutes, when respiration ceased and the heart failed. Restorative measures were fruitless. The next case occurred at Abingdon. A woman aged forty-seven was admitted into the Cottage Hospital suffering from strangulated hernia. The patient, having been duly anæsthetised, was operated on and the operation was successfully completed. It is stated in the report before us that the patient never entirely recovered from the effects of the ether and died two hours later. We are, unfortunately, not told what the particular effects of the ether were or how the ether was given or what was the quantity employed. It is certainly a very unusual thing for a patient to remain under the effects of ether for two hours after the completion of an operation such as that for the relief of strangulated hernia, which, as a rule, does not occupy much time and therefore does not require the use of more than an ounce or two of ether. It would seem more consonant with our experience of such cases that the severe shock attending the condition played the principal part in bringing about the unhappy results.

THE FRIENDLY SOCIETY MEDICAL INSTITUTE AT LUTON

THERE has been great rejoicing at Luton over the opening of what is called the Friendly Society Medical Institute, the cost of which, exclusive of ground, is to be £2500. The whole cost is likely to be about £3500. Such a building will doubtless be very convenient. The occasion was graced by the presence and the speeches of Lord Batterssea, the Mayor of Luton, Mr. S. Howard Whitbread M.P., Colonel Cook and other distinguished gentlemen. The speakers all felt a liberty to speak in terms of unqualified approval of the Institute and its objects. They could scarcely be ignorant of the fact that the methods by which these institutes are promoted and the objects aimed at by their promoters are the subject of very serious question and doubt, and are indeed a present matter of inquiry by a committee of the General Medical Council. We may be sure that such gentlemen as we have named would not support them if they did not believe what one of the speakers said, that "the benevolent and philanthropic principles of these societies were unquestionable." If other critic-

are to be believed they impose on the unfortunate medical officer an amount of work which is altogether monstrous for one man. We suspend our own judgment on these matters out of respect alike to the General Medical Council and to the Associations concerned. So strongly have we felt it our duty to do that we have ceased to publish correspondence or comment on the subject, trusting that all parties concerned will help to make the investigation of the Council complete and its conclusions reasonable. In noticing the report in the *Luton News* of the opening of the new building and the rostrate and laudatory views of the speakers we would only remind them through our readers that there is another side to the question, which was almost entirely overlooked by the orators on the opening day, but of which we shall doubtless hear in due time.

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"PLETHORA UNIVERSITARIA"

If this malady has not yet found classification in the pathology of public instruction it must be because of its limited, not to say unique, incidence. In fact, it is in Italy only that it is seen to exist. For a population of under 30,000,000 she has twenty-one universities. This is explained by the circumstances under which she became a united Kingdom. Each successive duchy, archduchy, pontificate or sovereignty that ceased to be "a geographical expression" and was absorbed into Italy, "one and indivisible," had its university or universities—some of these ancient and renowned, others scarcely even heard of. The present Minister of Public Instruction (Signor Martini) wants to suppress the languishing ones, and by concentrating the State largess on the really vigorous survivors to advance the cause of academic reform. A tempest of indignation has arisen in consequence, and meetings protesting against his "illiberal measure" are being held all through the peninsula. His answer is that by topping off the withered and decaying branches of the academic tree he is safeguarding the health and efficiency of the parent trunk. And what are the facts? We take them from Signor F. Dobelli, an Italian publicist, whom no one will suspect of reactionary sympathies. Piedmont, with 3,000,000 inhabitants has one university. Turin, Liguria, with 1,000,000, also one, Genoa. Lombardy with 4,000,000 one, Pavia, the Venetian territory with 3,000,000 one, Padua, the Neapolitan, with 8,000,000 one, Naples, Latium, with 1,000,000 one, Rome. Now for the other side. The Emilia, with 2,500,000 souls has four universities—Parma, Modena, Bologna and Ferrara, the Marches and Umbria, with less than 2,000,000 also four—Camerino, Macerata, Urbino and Perugia. Sicily with 3,000,000, has three—Palermo, Catania and Messina, Tuscany with 2,000,000 has two—Siena and Pisa, the island of Sardinia, with something over 600,000, has two—Sassari and Cagliari. It is asked, if six universities suffice for a population of

20,000,000 why should the other 10,000,000 Italians complain if eight or ten of their fifteen universities are suppressed? Again, the six greater universities admit 8000 students, the other fifteen enrol less than 3000, while there are universities, according to Signor Dobelli, where there are fewer students than professors! In the interests of Italian progress Signor Martini justifies his measure of suppression. Italy suffers from a traditional provincialism. What better cure for this than, by reducing the number of universities to compel students from a wider area to meet in one or other of the greater ones and by contact and friction rub off their parochial angusties? The small universities on the present system, are so poor that they cannot keep pace with science in the requisite appointments such as tutorial staff, laboratories, libraries &c. This evil would be met by the simpler means at the disposal of the better attended, better endowed, and larger ones. To retain the full number of Italian universities, but to cut down their faculties—restricting one, for instance, to law, another to medicine, a third to exact science, and so on, and limiting their power of granting degrees to the one faculty they represent—is a proposal which has only to be stated to be dismissed. Signor Dobelli asks where the lawyer is to acquire his medical jurisprudence in a university which ignores medicine and teaches only law, or where the medical graduate is to get his exact science in a school where physics, optics, &c. are not recognised. Universities would forfeit their name under such a system. Meanwhile the issue of the battle in which Signor Martini courageously encounters the champions of the *status quo ante* will be watched with interest.

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refused revaccination and is the only one infected. Another man who shifted from one "model" to another turned up at the office with small pox, and it was ascertained that on the previous day a charitable clergyman had taken him into his house and given him dinner and some clothing. 3. A man who sickened in Manchester on Dec 21st came on to Glasgow on the 23rd and next day went to the Saturday afternoon concert in the City Hall. He was not able to sit out the entertainment and was removed to Belvidere on the 26th. He had the eruption since the 23rd and used fully all the public means of locomotion in the interval. The total number of cases existing in Glasgow on Monday was 42, an increase on previous figures. Barlinnie Prison, near Glasgow, appears to have been a centre of small pox distribution. Two cases in Glasgow, one in Slamannan (Stirlingshire) and another in Wishaw (Lanarkshire) had their origin in this prison. Every effort is being made to prevent further spread from this institution and to trace existing cases. No new cases are reported from Dumbartonshire. The navy who set a going the infection near Helensburgh went on to Crianlarich in Perthshire and has been got hold of there, so that his career as a propagator of small pox has been brought to a termination. In the Edinburgh district we have not heard of any fresh outbreak. The Board of Supervision has issued a circular impressing on local authorities the urgent need for attention to vaccination, to removal of nuisances and to the provision of hospital accommodation.

SINGULAR CASES OF POISONING BY GAS FROM A DISUSED MINE

EMANATIONS of carbonic acid gas from the earth, except from springs or in the neighbourhood of volcanic districts, are comparatively rare, and the occurrence reported in the papers on Tuesday must be considered somewhat unusual. It appears that in a mining village close to Wolverhampton two women died last week from the effects of a gas which is believed to have exuded from the neighbouring disused coal mines into the cellars of the houses which they inhabited. The women who succumbed were found lying on the floor in convulsions, and some domestic animals also succumbed in the same house. The coroner's jury returned a verdict in the case of each of the two women of "Death from congestion of the lungs caused by inhalation of carbonic acid gas." It is difficult to account for this gas issuing from a disused coal mine. Coal has the remarkable property of storing or occluding inflammable gas (CH_4) within its substance, but this property does not extend to carbonic acid. Carbonic acid is of course familiar to the miner as the deadly afterdamp or chokedamp which follows an explosion, but in a disused mine the production of carbonic acid from this cause is out of the question. Whatever the origin of the gas may have been there can be but one conclusion as to the necessity of avoiding further disaster. The cellar floors of houses contiguous to coal mines should be lined with a cement which is impervious to gases, and the passages of mines that have been exhausted of their coal should never be allowed to get choked with waste material or rubbish.

NEGLECT TO PROVIDE ISOLATION FOR INFECTIOUS DISEASES

WE have frequently called the attention of the profession to the neglect of sanitary authorities in providing the necessary hospitals for the isolation of infectious cases occurring in their districts. The penalty of such neglect must sooner or later be felt. A case of small pox occurred recently in Standish, a village near Wigan, which may yet lead to awkward consequences through such neglect. A man who had come originally from near Manchester and had

passed several days in the vicinity went into the surgery of the local practitioner and medical officer of health, who recognised the symptoms as those of small pox. The Standish local authorities, although their district is seldom free from infectious diseases such as typhoid fever and scarlet fever, have neglected to provide an isolation hospital. No empty house could be obtained, and no one could be found to admit such a case into his house. After several hours' delay the relieving officer of the district had the man taken to the Wigan Union Workhouse. The master, on learning the nature of the case, refused the patient admission because there were no infectious wards attached to the workhouse, and eventually the man was admitted into the Wigan Sanatorium. The Wigan Board of Guardians have had an arrangement for some time with the Sanitary Committee of the corporation by which all infectious cases occurring on their premises or in their schools are at once removed to the corporation isolation hospital. By this means several outbreaks of small pox have been averted. Although for relief purposes Standish is within the Wigan Union, the local sanitary authorities are expected to make provision in their own districts. Several local boards have done so, whilst other districts of the union have neglected this most important duty. It is to be hoped that this case will arouse the authorities from their state of lethargy. They should either provide a suitable hospital at once or combine with neighbouring authorities for the purpose. In his last report to the Standish Local Board, Mr Marsden, the medical officer of health, reported (in writing of scarlet fever) that "disinfection and isolation were effected so far as circumstances would allow, but until we have an infectious disease hospital this class of disease will always find here a happy hunting ground."

THE DEATH OF MR SUMMERS, M.P.

A correspondent of the *Huddersfield Chronicle*, "Sanitas," referring to the lamentable death from virulent small pox in India of Mr Summers, says "he was a strong opponent of vaccination and had the courage of his opinions. It is sad to think that had he been revaccinated before he left his native shore he might have escaped so tragic a death." We have only two alterations to make in the last sentence. We should insert the word *successfully* before vaccination and substitute the word "would" for the word "might." These alterations, though not to be taken absolutely, are amply justified by experience. It is lamentable to think that with the rising flood of small pox in our own country there is a huge number of unvaccinated and unrevaccinated persons braving the risks which have proved fatal to two such valuable lives as those of the late Professor Freeman and the late Mr Summers. We seem on the threshold of a new experience in the fads of modern civilisation.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

THE following are the lecture arrangements for 1893. On Feb 6th, 8th and 10th Professor C B Plowright will deliver the first of these lectures on the subject of "The Action of Fungi on the Human Body." "Intestinal Parasites belonging to the class Nematoda" will be treated in Professor H J Campbell's lecture on the 20th, 22nd and 24th of February, and the subject of Professor B T Lowne's lectures to be delivered on Feb 27th and March 1st and 3rd will be "The Physiology of the Respiration, Circulation and Nervous System of some Invertebrata." The concluding lectures of this, the first, course will be given by Professor Charles Stewart on Mondays, Wednesdays and Fridays successively during March commencing on the 6th and terminating on the 24th of the month. He will deal with the Physiological Series of Comparative Anatomy in the

Museum of the College. The second course of lectures will be commenced by Dr J Rose Bradford (Arms and Gale Lecturer), who will lecture on May 29th and 31st and June 2nd on "The Physiology of the Kidney." On June 5th, 7th and 9th the subject of the lectures will be "The Pathology of Tumours connected with the Bladder." They will be delivered by Mr J H. Targett, F.R.C.S. (Erasmus Wilson Lecturer). Professor J Hutchinson, jun., will lecture on June 12th, 14th and 16th on "Injuries to the Epiphyses and their Results," and Professor Bernard Pitts, on June 19th, 21st and 23rd, on "The Surgery of the Air Passages and Thorax in Children." The lectures will commence at 5 P.M.

MEMORIAL TO SIR RICHARD OWEN

H.R.H. THE PRINCE OF WALES, as chairman of the Owen Memorial Committee, will preside at a meeting to be held to-day (Saturday) in the rooms of the Royal Society, Burlington House, for the purpose of taking into consideration the most appropriate form of memorial and of appointing a working committee, as well as for the transaction of other business in connexion with the movement. The meeting is called for 11.30 A.M., and will, we doubt not, secure a full attendance.

THE THIRSK DISASTER

WHEN commenting recently on the evidence adduced at the trial of the pointsman Holmes we pointed out that it was the breach of rule and not any defect in the provision made by the company's regulations for dealing with the emergency which had actually arisen to which the accident must be traced. We observe that this same conclusion has been reached by Major Marindin, the officer appointed by the Board of Trade to conduct an inquiry into the circumstances of the accident, as the result of his independent investigation.

BELVIDERE HOSPITAL, GLASGOW

A VERY successful gathering took place under the auspices of the Glasgow Southern Medical Society on the 12th inst., when Dr J W Allan, who has just retired from the office of physician superintendent of the Belvidere Fever Hospital, was entertained at dinner by his professional brethren. Dr Couper, the president of the Society, occupied the chair, and, after proposing the health of "Our Guest," read an address to Dr Allan framed by the Society in which was expressed their high appreciation of his eighteen years' service at the hospital, and of the courtesy which he invariably showed to all seeking his advice and assistance. Dr Allan made an appropriate and feeling reply, and several other toasts followed.

ABATTOIRS

AN abstract is given in a daily contemporary of the report of the London Model Abattoir Society with reference to the spread and working of the public slaughter house system in English and Welsh towns. Forty eight towns in all have obtained powers to raise loans for the provision of abattoirs, and there are other towns, such as Bolton, Birkenhead, Halifax, Leicester, Huddersfield and Manchester, in which abattoirs have been built without recourse to loans requiring the sanction of the Local Government Board. As regards the sale of diseased meat there is, says the report, practical unanimity as to the establishment of abattoirs rendering this practice difficult and almost impossible. It also appears that there is the same unanimous evidence as to the great improvement in the public health and diminution of nuisance which have been found to result from abattoirs. As regards finances, the result in the majority of towns has been success-

ful, and where a slight loss has been experienced this is generally attributed to the continuance of private slaughter-houses side by side with the abattoirs. But the authorities of most towns say that profit was not the object sought for in establishing the system, and that any loss is more than compensated by other benefits. Provincial towns have powers given them for closing private slaughter houses by the Public Health Acts Amendment Act, 1890. In London the County Council, as the licensing authority, has—especially since the passing of the Public Health (London) Act, 1891—absolute control over these licences, except in the case of premises under the authority of the City Corporation.

THE COMMITTEE ON HOSPITALS

A MEETING of the Committee for the final consideration of the recommendations of the Lords' Committee on Hospitals, and with special reference to the recommendation for the creation of a central body to supervise the hospital system with a view to its better working, will be held on Jan 24th. We do not gather that we are likely to receive from this Committee any fully considered suggestions for placing the medical attendance in workhouses on a broader basis. Considering the growth of workhouse infirmaries, the great number of patients they contain and the number of grave diseases which are healed in them, this question needs more definite attention than it has yet received. These infirmaries, too, are centres which afford unrivalled opportunities for the study of many interesting groups of disease.

GLYCOSURIA IN INFANCY

CONSIDERABLE attention has recently been directed to the occurrence of diabetes and glycosuria in young children. Dr Julius Grösz of Prague, writing in the "Jahrbuch für Kinderheilkunde," Band xxxiv, Heft 1, comes to the following conclusions. In certain digestive disturbances there is occasionally present in the urine of infants a strong reducing agent which gives the qualitative tests for sugar, and which is optically active but does not ferment (not answering, therefore to the yeast test). Minute quantities of carbo-hydrates are also found. Dr Grösz never found glycosuria in healthy breast-fed infants. When it did occur there was always some alimentary trouble, most commonly gastro-enteritis. There is often an increase of reducing substances in the urine of infants in addition to the substance referred to above, which is probably either lactose or some product of it. The limit of assimilation of milk sugar in infants is very high, being in healthy, breast-fed children about three grammes and three tenths per kilogramme against one gramme and four tenths in adults. This limit, however, is easily lowered, especially by digestive disturbances, and the glycosuria in such cases is therefore probably due to this lowering of the assimilation limit and partly also to the action of intestinal bacteria.

FOREIGN UNIVERSITY INTELLIGENCE

Berlin.—Dr Adolf Baginsky has been promoted to an Extraordinary Professorship of the Diseases of Children.

Breslau.—Dr Grönouw has been recognised as *privat-docent* in Ophthalmology.

Florence.—Dr A. Lustig has been promoted to the Ordinary Professorship of General Pathology.

Kharloff.—Dr Lomikovskii has been promoted to the Ordinary Professorship of Diagnosis.

Naples.—Drs Zagari and Volpe have been recognised as *privat-docenten* in Medicine, Dr A. Breglia as *privat-docent* in Human Anatomy and Dr G. Corrado as *privat-docent* in Forensic Medicine.

New York (Polyclinic).—Dr W. H. Katzenbach has been appointed Professor of Medicine, Dr A. J. McCosh Professor

of Surgery, Dr Florian Krug Professor of Gynecology, and Dr E B Dench Professor of Otology

Pavia—Dr P Temoli has been recognised as *privat docent* in Operative Medicine.

Prague (German University)—Dr Karl Bayer has been promoted to be Extraordinary Professor of Surgery

Rostock—Dr Christian Lemcke has been promoted to be Extraordinary Professor of Otology and Laryngology

St Petersburg (Military Medical Academy)—Dr S V Shidlovski has been promoted to be Ordinary Professor of Hygiene

Siena—Dr D Morisani of Messina has been appointed to the chair of Clinical Surgery

DEATHS OF EMINENT FOREIGN MEDICAL MEN

THE deaths of the following distinguished members of the medical profession abroad have been announced—Dr L Desnos of Paris, Dr Karl Eichstedt, Extraordinary Professor of Dermatology and Syphilis in the University of Greifswald, Dr Horteloup of Paris

THE works of the Policlinico at Rome have had to be suspended on account of the severe and protracted frost, and the many *employés*, masons particularly, engaged on them have had to apply to the municipality for means of livelihood till operations can be resumed. This is a serious state of matters not only for the workmen but also for the unemployed building itself, which can ill afford such interruption in view of the International Medical Congress which will assemble in its halls on Sept 24th next.

AT the Society of Arts on Wednesday next, Jan 25th, Mr Wyke Bayliss, F S A., President of the Society of British Artists, will read a paper on The Fine Arts in relation to the Sanitary Condition of our Great Cities. Dr B W Richardson will preside

MR. A. SIMS, M B, C M Aber, has been awarded by the French Government the Brevet of Chevalier and the Cross of the Legion of Honour in recognition of his medical services in the French Congo

WITH the consent of Princess Victoria Mary of Teck the new children's ward which is about to be established at the Richmond Hospital is to be named "Princess May's Ward."

THE foot-and mouth disease order of Jan 2nd, prohibiting the removal of cattle from the metropolitan area, has been revoked by the Board of Agriculture.

Pharmacology and Therapeutics.

TETIONAL AS A HYPNOTIC

IN the last number of the *Neurologisches Centralblatt* Dr Brie of Bonn has published a paper on this subject. Tional has similar molecule to sulphonal, which contains, however, three ethyl groups to the two which sulphonal has, while tetional, on the other hand, contains four. It can be obtained at rather less than 2s an ounce. It is a white powder, very insoluble in water at the ordinary temperature, more soluble in hot water and easily soluble in alcohol or ether. It was given to forty two patients in an asylum and was only rejected by one excited maniac, and as he at this time refused food also this has little significance. All the others took it readily, amongst them being some who violently resisted the administration of opium and other hypnotics. Of the patients eleven were the subjects of melancholia and in these a sound sleep of seven to nine hours was obtained with the drug. In the milder cases 1 gramme was sufficient for this, in the more severe ones 2 grammes were

better, preventing a too early awakening. No unpleasant after-effects were experienced even after administration of the drug nightly through several successive weeks. In four cases of melancholia with excitement good results were also obtained, and in the cases of mania—the most severe test of all for a new hypnotic—the results were highly satisfactory. In only one did vomiting follow the administration after a few hours and it was doubtful whether the gastric disturbance was not due to some other cause. Some patients seemed a little tired on the following morning and others complained of an intoxicated feeling after taking it. In cases in which sleeplessness with hallucinations was a marked symptom tional was effective in inducing prolonged sleep and the same effect was observed in cases of psychical disturbance secondary to other disease. In short, Dr Brie regards tional as one of the best and most reliable of hypnotics and he believes it will replace sulphonal. It is almost tasteless, easily administered, quick in its action and without unpleasant after effects.

TEMULIN, THE POISONOUS ALKALOID OF DARNEL SEEDS.

When the seeds of the darnel, *Lolium temulentum*, happen to be mixed with corn various toxic symptoms are liable to be produced in those who eat bread made from it, though some writers have expressed an opinion that these symptoms are not due to the *lolium*, but to something else, such as ergot, which may have found its way into the corn. In order to determine whether *lolium* really contains any poisonous principle Dr Hofmeister of Prague has carried out a series of chemical and pharmacological researches. The symptoms that have been ascribed to *lolium* seeds are of two classes—namely (1) nervous, such as vertigo, headache, contractions, paralyses, illusions, deafness and dark mists in front of the eyes, and (2) gastric, such as nausea and spasmodic pains in the stomach. The cases do not seem frequently to have terminated fatally, the vomiting which was often produced warding off the danger. These symptoms appeared to Dr Hofmeister to indicate the existence of two different toxic bodies, a nerve poison and a local irritant. He succeeded in separating a crystalline alkaloid which he calls temulin, together with two other alkaloids which had been already prepared by other chemists and named by them temulentin and loluin, also some other bodies which did not appear to present any properties of much importance. With temulin, which by the way exists only in very small quantities in *lolium* seed, he made a number of experiments on animals. The lethal dose in cats was 0.25 gramme per kilogramme of body weight. The toxic symptoms were mainly of a nervous character—stupefaction, a staggering gait and paralyses. The respirations were at first quickened and later they became shallow and slow, until death occurred from their arrest. A mydriatic effect was observed in almost all the animals to which temulin was given internally, but when applied to the eye it did not act. This alkaloid appeared to have no effect on the digestive tract, and Dr Hofmeister was able to show that the gastric disturbance caused by *lolium* seeds is due to the fatty matters and fatty acids they contain, for he introduced these substances by means of an oesophageal tube into cats' stomachs and produced vomiting. The bitter substance which is also contained in the seeds has no effect, he finds, on the digestive organs.

SULPHATE OF CODEINE IN THE MORPHINE HABIT

An anonymous writer in the *New York Medical Journal* speaks favourably of the use of codeine in the treatment of the morphine habit. In a case to which allusion is made morphine had been used hypodermically for nineteen months, as much as seven or eight grains daily having been taken for a considerable time, and in which in three weeks from the time the morphine was abandoned the cure was practically complete, and that without the exercise of more than ordinary fortitude and without abstention from daily duties. The writer used a hypodermic injection of one grain of the sulphate of codeine dissolved in hot water, one dose every three hours for a few days, then the intervals gradually lengthened, until on the fourteenth day it was stopped entirely without any difficulty. He recommends before using the codeine the gradual reduction of the morphine to a minimum—say one half or one-quarter of a grain in twenty four hours.

A FERMENT COMMON IN ASCITIC FLUID

It having been suggested by an English surgeon that ascitic fluid, which has the property of changing starch into sugar, has probably some connexion with the pancreas, MM Debray

and Legrun write to *Le Bulletin Medical* that researches which they have been engaged in for a considerable period show that the great majority of ascitic fluids possess the property in question. They have, for example, found it in cases of atrophic cirrhosis of the liver in tuberculous liver, in splenic leucæmia and in hypertrophic cirrhosis of the liver with jaundice. The presence of a saccharifying ferment in ascitic fluid does not therefore appear to them to justify a diagnosis of a pancreatic origin.

UNIVERSITY OF LONDON

MEETING OF CONVOCATION

A MEETING of Convocation of the University of London was held on Tuesday last at the University Building, Burlington gardens, the Chairman of Convocation, Mr E. H. Busk, M.A., LL.B., presiding.

The first business on the paper was the nomination of three persons to be submitted to Her Majesty for the selection therefrom of a Fellow of the University. The following were the nominations—*Alfred William Bennett, M.A., B.Sc., William Job Collins, M.D., M.S., B.Sc., and Henry Greenway Howe, M.S., M.B.* The scrutineers' report showed that Dr Collins had received 855 votes, Mr Howse 642, and Mr Bennett 218. Dr Collins will therefore, in accordance with the usual custom, be selected by the Crown.

Mr W. G. LEMON, LL.B., B.A., presented the report of the annual committee and the scheme for the reconstitution of the University thereto appended (adopted by the annual committee on Dec 9th last). He said that a cry had arisen for a teaching University and there was a feeling that it was not desirable there should be two Universities in London. Nothing could be more fatal to the character of the degrees of this University than that there should be standing side by side with it a University which, if not the University of London, would be a University in London as the degrees of the two bodies would be confounded. Therefore it seemed that any attempt to make a University by a coalition of two or more colleges would be regarded by this University with disfavour. The question therefore arose whether some means might not be devised by which teaching should be associated with this University without the difficulties connected with constituent colleges. The scheme, which was based upon individual representation rather than upon the representation of institutions, was a rough one, laying down principles which, if approved of in the main, could then be clothed with living power. The scheme would in no way diminish the influence of Convocation.

Dr NAPIER seconded the motion, remarking that it would in no way lower the high standard of the degree. The scheme was then formally received.

Mr LEMON moved a resolution approving of the following paragraph of the scheme—"The purposes of the incorporation of the University to be so defined as to include, in addition to the existing purposes, the organisation of regular and liberal education throughout the British Empire, and especially in the metropolis and its neighbourhood, and the advancement of knowledge and encouragement of original research."

Dr NAPIER seconded the motion.

Mr BOMPAS Q.C., said this seemed to him to be an attempt to make one body do two wholly different things. It had been rightly decided that the University should continue to be an Imperial University, and it was therefore impossible that it should also be a municipal University.

An amendment, moved by Dr R. D. ROBERTS, and seconded by Mr E. S. LADBROOK, for the omission of the words 'throughout the British Empire, and especially,' was negatived, and the resolution was agreed to.

Mr LEMON moved the adoption of the following constitution—The University to consist of (1) members (c) Fellows (b) graduates (c) professors examiners, teachers and demonstrators of the University during their respective terms of office. (2) undergraduates. On this the question was raised whether undergraduates should not be included under 'members' and an amendment to that effect was moved and seconded, but was lost, and the original resolution was carried.

Mr LEMON then moved the adoption of the clause in the scheme relating to the constitution of the Senate, on which there was a little discussion.—An amendment to the effect

that Convocation disapproved of a share in the government of the University being given to any who had not undergone graduation was lost, and the original motion was agreed to.—The paragraphs of the scheme relating to Convocation and the teaching staff were also agreed to.—In regard to the latter subject, the scheme provides that the Senate shall have power to appoint members of the teaching staffs of the colleges or other higher educational institutions as professors, teachers and demonstrators, and that although the University must be centralised for certain purposes the teaching of the University shall be given at various centres, according to requirements.

The remainder of the scheme was agreed to with only verbal amendment.

Resolutions were then discussed and agreed to that the annual committee continue to represent Convocation in all matters connected with the Royal Commission, that the Senate be urged to increase the remuneration of the clerk; that the Senate be requested to inform Convocation of the reasons for the rejection of proposals approved by Convocation, and that it be referred to the annual committee to consider a scheme for a degree in connexion with the scientific study of education.

Convocation adjourned after a sitting of nearly five hours.

The following is the

OUTLINE OF SCHEME

FOR THE

RECONSTITUTION OF THE UNIVERSITY

Adopted by the ANNUAL COMMITTEE on Dec 9th 1892, and passed by CONVOCATION on Jan 17th, 1893

I.—OBJECTS OF INCORPORATION

1. The purposes of the incorporation of the University to be so defined as to include in addition to the existing purposes the organisation of regular and liberal education throughout the British Empire and especially in the metropolis and its neighbourhood, and the advancement of knowledge and encouragement of original research.

II.—CONSTITUTION

2. The University to consist of the following—

- (1) Members
 - (a) Chancellor, Vice-Chancellor and Fellows.
 - (b) Graduates.
 - (c) Professors, Examiners Teachers and Demonstrators of the University during their respective terms of office.
- (2) Undergraduates.

III.—SENATE

3. The Senate shall be the executive of the University and consist of the Chancellor and thirty-nine Fellows to be appointed as follows—

I. The Chancellor and seven Fellows to be nominated by the Crown in consideration of a fixed grant from the Treasury three of such Fellows to be nominated in respect of National Museums and Libraries in London.

II. The Chairman of Convocation (ex-officio) and 11 other Fellows to be elected by Convocation.

III. Ten Fellows representing the Faculties of the University and distributed as follows—Arts and Music 3, Laws 1, Medicine 2, Science 2, Divinity 1, Technology 1. (Technology subsequently removed from the Faculties.)

IV. The President of University College, London, the Principal of King's College, London, the Presidents of the Royal College of Physicians of London and the Royal College of Surgeons of England, the Chairman of the Council of Legal Education and the President of the Incorporated Law Society.

V. Four Fellows representing the Municipal Authorities of London—viz. the City Corporation and the London County Council, on condition of an adequate endowment from each authority represented.

4. Members of the Senate other than those appointed under section iv to serve for a period of six years only but to be re-eligible, with provision for the retirement of some members every three years.

IV.—CONVOCATION

5. Convocation to continue as at present and to retain its existing powers, rights and privileges and to include Graduates of the existing University.

6. Convocation to appoint at least two members of each Board of Studies.

V.—TEACHING STAFF

7. There shall be a University Professoriate and a staff of Teachers and Demonstrators.

8. All appointments shall be vested in the Senate and shall be held during their pleasure. The Senate shall have power to appoint members of the Teaching Staffs of the Colleges or other higher educational institutions as University Professors, Teachers and Demonstrators with endowments from the funds of the University on condition that the appointment to such chairs whenever a vacancy occurs should pass to the University.

9. Although the University must be centralised for certain purposes with its own Lectures Laboratories and Libraries, yet the teaching of the University should be given at various centres according to requirements.

10. The National Museums and Libraries to be available for Members and Undergraduates of the University in consideration of their representation on the Senate as provided in paragraph 3, subsection 1.

VI.—FACULTIES.

11. There shall be six Faculties, viz. —

- (1) Arts,
- (2) Laws,
- (3) Medicine
- (4) Science
- (5) Divinity
- (6) Music

Examinations wherein shall result in degrees

All branches of knowledge not qualifying for a degree and not included in any other Faculty shall be included in the Faculty of Arts.

12. Each Faculty shall consist of all the persons for the time being answering the following descriptions —

i. All University Professors in the subjects comprised in their Faculty

ii. Such other Teachers and Demonstrators of subjects comprised in the Faculty as may be recognised by the University

iii. The Examiners of the University in subjects comprised in the Faculty

13. Each Faculty shall appoint—

(a) Members of the Senate

(b) From its own body Members of a Board of Studies

VII.—BOARDS OF STUDIES

14. Each Board of Studies shall consist of Members appointed by the Faculty and two Members appointed by Convocation.

15. The powers and duties of each Board shall be consultative only—viz. (1) to consider and report upon any matter referred to it by the Senate, (2) to represent to the Senate its opinion upon any matter connected with the degrees and examinations and teaching of the subject of its Faculty (3) to deliberate if so requested, in conjunction with the Senate or any Committee thereof, and (4) to meet and act concurrently with any other Boards or Board of Studies on particular subjects.

16. The Boards of Studies shall also advise as to regulations in connexion with Museums Laboratories &c.

VIII.—DEGREES AND EXAMINATIONS

17. The Imperial character of the University to be retained and its examinations to remain open to all Candidates who have complied with the regulations, irrespective of the place or manner of their education.

18. The standard of attainment for matriculation and the various examinations in all the faculties to be maintained at as high a level as at present.

19. Restrictive regulations as to compulsory intervals of time between Matriculation and the Preliminary Scientific Examination and the Intermediate Examination in Medicine and M B Examination to be abolished, provided always that the usual medical curriculum required by the General Medical Council shall have been passed through by a candidate before he presents himself for the final M B.

20. The Examinations in Divinity to be confined to the testing of knowledge and to be in no way concerned with the religious opinions of the Students.

21. The University to have power to grant Certificates or Diplomas as well as Degrees.

22. The University not to have power to grant Honorary or *ad eundem* Degrees, or to allow of procedure to a higher Degree without examination.

23. The University to have power to hold real property and to accept endowments, grants, gifts, devises and legacies, notwithstanding the statutes of mortmain.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

THE following abstract from the report of the Committee of Management of the two Colleges which was submitted to the last meeting of the Council of the Royal College of Surgeons will be found of interest to those engaged in teaching. The Report was approved and adopted.

The recommendations were as follows —

1. That instruction in Chemistry, Physics, Practical Chemistry and Elementary Biology at the following institutions be recognised as fulfilling the requirements of the new regulations for admission to Parts I and III of the First Examination—viz. The University College of Wales, Aberystwith, the Grammar School, Bradford, and Epsom College

2. That instruction in Chemistry, Physics and Practical Pharmacy in the laboratories of the Pharmaceutical Society be recognised as fulfilling the requirements of the new regulations for admission to Parts I and II of the First Examination

3. That the Liverpool Corporation Fever Hospitals be recognised for the attendance required by Clause 12, paragraph 2, section 1 of the new regulations

4. That the London County Asylum, Binstead, be recognised for the attendance required by Clause 13, paragraph 2, section 1 of the new regulations

5. That the Courses of Laboratory Instruction delivered at University College and King's College be recognised as fulfilling the requirements of the regulations for the Diploma in Public Health

6. That Mr Thomas Cooke's Course of Operative Surgery be recognised as fulfilling the requirements of the regulations for the ensuing year on the same conditions as heretofore.

7. That candidates who desire to present themselves for re examination be required to produce the certificates of additional study fourteen days, instead of three days, before the commencement of the examination, so that the certificates of all students may be in the hands of the secretary at one and the same time.

The Committee also reported the following result of the examinations of the Board for the year 1892 —

1. Under the regulations, dated Oct 1st, 1894, four years' curriculum.

For the first examination in chemistry 664 candidates presented themselves, the percentage of rejections being 34, in Materia Medica 847, rejected 43 per cent., Elementary Anatomy 813, rejected 20 per cent., Elementary Physiology 763 rejected 14 per cent.

For the second examination In Anatomy 819, rejected 35 per cent., in Physiology 924, rejected 45 per cent.

For the final In Medicine 797, rejected 35 per cent., in Surgery 816, rejected 40 per cent., in Midwifery 783, rejected 33 per cent.

2. Under the regulations dated Jan. 1st, 1892, five years' curriculum

First examination In Chemistry 51 rejected 41 per cent., in Practical Pharmacy 29, rejected 31 per cent., in Elementary Biology 10, rejected 20 per cent.

NATIONAL SOCIETY FOR THE EMPLOYMENT OF EPILEPTICS

THERE are few members of the profession who have not been brought face to face with the difficulty of dealing with epileptics capable of work and desirous of employment, and yet prevented by their affliction from finding occupation. It is well known that sufferers from this malady are very often indeed, in the intervals of their attacks, not only able to do useful work, but capable of having their position in life infinitely ameliorated by occupation, especially of a physical kind. In treating epileptics among the well-to-do our aim is to find employment for the sufferers. We send them travelling with medical attendants, we encourage them to take up such work as from circumstances they can engage in, our endeavour is to prevent them from feeling that they belong to a class which must always be liable to find itself cut off from the ordinary business of life. But the difficulty of dealing with persons belonging to other strata of society is enormously increased. They cannot afford the expense of medical or other attendants. They are dependent upon the personal help and the surveillance of immediate relatives, whose time and attention cannot be spent without serious detriment to the money earning capability of the family. If they succeed in obtaining employment in a workshop office, or place of business, the occurrence of a fit of epilepsy throws their employers into alarm, and the unfortunate sufferer is informed that he or she can no longer be retained. The result is that the epileptic is continually finding himself dismissed, often, it is true, with words of sympathy and regret, from a post which he feels himself apart from the occasional attack of incapability, well able to fill. Repeated attempts of this kind are attended with repeated failure, and the unfortunate sufferer gradually drifts into the condition of a pariah, shut off from communion with his fellows, and condemned to a life of idleness and misery. In these classes the end is either the workhouse or the lunatic asylum. Experience of the beneficial results of work upon epileptics belonging to the more favoured classes, for whom occupation of a more or less appropriate character can be secured, would seem to show that, in those less happily circumstanced, the constant strain and worry consequent on the miserable life of forced idleness which they lead tend more and more to the production of a state of mental degradation for which the lunatic asylum is the only resource.

Our columns frequently contain inquiries as to some place at which epileptic sufferers in this position of life can be received. The answers have hitherto been unsatisfactory. It is not a hospital that these persons require. It is the opportunity of useful occupation which they need, together with surroundings in which they may feel that they are not

isolated from their fellows and looked upon with dread or pity, a home is wanted in which they may be actively employed, with the assurance that they are in some measure helping on the work of the world, and in which the occasional occurrence of a fit will not be attended with horror on the part of by standers, or a peremptory dismissal from their employment. A serious attempt is now being made to remedy a condition of things which is fraught with misery to a class of persons entirely free from the charge of having brought suffering of this kind upon themselves. We referred in a recent issue to the National Society for the Employment of Epileptics, which is endeavouring to form a colony in which persons of this class may at length find a haven of rest from the miseries attendant upon their affliction, and we are anxious to again call attention to its efforts because we believe that the medical profession has it in its power to promote powerfully the benevolent scheme.

The idea of the Society is to establish not far from London a colony in which occupation, at first agricultural and after a time embracing other industries, may be provided for epileptics. A public meeting to be presided over by the Lord Mayor, is to be held at the Mansion House on Wednesday next at three o'clock. We hope that many members of the profession, conversant with the need of such an institution, may find it convenient to attend and lend their aid to this project, which has received the sanction of many well known medical men and others interested in helping a sorely afflicted class. The office of the Society is at 20, Hanover square, W.

CHOLERA.

CURRENT NOTES, COMMENTS AND CRITICISM

INCREASING cold and decreasing cholera—or, as many would prefer to say, hibernating cholera—form the substance of this week's intelligence from the Continent. As regards Hamburg three further cases of this disease among the crew of the Spanish steamship *Murciano*, two among the crew of the steamer *Gröthen Böhlen*, recently arrived at the port, and two cases at Pauli have occurred since our last report, also a death from cholera at Schwerin, and the latest official intelligence notifies a fresh case on the 12th inst. One of the cases attacked with cholera was that of a Polish Jew who had recently arrived at Hamburg from London. At a late meeting of the delegates from the German seaports to consider the measures which should be taken in regard to the threatened extension of cholera, we are glad to notice that Herr Ruperti (Hamburg) proposed a resolution for the adoption of the English regulations on the ground that, tested by experience in this country they had been found adequate, without causing unnecessary disruption of marine intercourse.

Intelligence has been received from Berlin of an alarming outbreak having occurred in a provincial lunatic asylum near Halle, in which eight persons have already died, but the disease is believed to have been cholera nostras and not Asiatic cholera. The results of the bacteriological investigations in this case have not yet been promulgated.

From Amsterdam we learn that a fatal case of cholera took place in the person of a man who had arrived there from Utrecht, and from the Hague a fresh case has also been reported. The sanitary condition of Hungary and of its capital, Budapest, has of late attracted attention, and it is certainly such as to call for the prompt application of measures for improvement. The official returns for 1892 show that an epidemic of diphtheria had prevailed in the capital and in twenty five counties and had caused an appalling loss of life, and notwithstanding the extreme cold six cases of cholera had been reported in the space of two or three days at Budapest. It is said that diphtheria and other epidemic diseases are very prevalent in that city at the present time and that the former is again on the increase. It is reported that diphtheria and scarlet fever are also epidemic throughout Servia, and that in Belgrade alone there are over 1000 cases of these diseases, necessitating the closure of the primary and lower middle-class schools. The prevalence of these epidemic forms of sickness during the present cold weather affords an indication of the neglect of sanitation on the part of the municipal and local authorities which may have an important influence on the spread of cholera hereafter. As regards France, there has been little or no

intelligence concerning the progress of cholera in that country, and as there has been no case reported in the weekly bulletins from Paris it may be hopefully inferred that the absence of intelligence is due to there being no cholera cases to report.

VITAL STATISTICS

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns 6723 births and 5604 deaths were registered during the week ending Jan. 14th. The annual rate of mortality in these towns, which had risen from 20.0 to 29.2 per 1000 in the preceding three weeks, declined last week to 28.3. In London the rate was 30.3 per 1000, while it averaged 26.9 in the thirty two provincial towns. The lowest rates in these towns were 19.5 in Oldham, 20.6 in Newcastle-upon Tyne and in Birkenhead, 21.1 in West Ham and 21.9 in Huddersfield, the highest rates were 31.2 in Preston, 32.4 in Manchester, 32.6 in Salford, 33.4 in Wolverhampton and 36.0 in Bolton. The 5604 deaths included 435 which were referred to the principal zymotic diseases, against 473 and 431 in the preceding two weeks, of these, 122 resulted from measles, 91 from whooping cough, 89 from diphtheria, 59 from scarlet fever, 33 from "fever" (principally enteric), 32 from diarrhoea and 9 from small-pox. The lowest death rates from these diseases were recorded in Huddersfield, Newcastle-upon Tyne, Swansea and Wolverhampton, while they caused the highest rates in Salford, Oldham, Plymouth and Bolton. The greatest mortality from measles occurred in Salford, Manchester, Nottingham, Plymouth, Leeds, Hull and Bolton, from scarlet fever in Plymouth, from whooping cough in Norwich, Birkenhead, Oldham, Gateshead, Nottingham, Bradford and Bolton, and from "fever" in Oldham and Sunderland. The 89 deaths from diphtheria included 61 in London, 4 in Salford, 3 in Manchester, 3 in Sheffield and 3 in Cardiff. Two fatal cases of small pox were registered in London, 2 in Manchester, 2 in Oldham, and 1 each in Bolton, Halifax and Bradford, 56 cases of this disease were under treatment in the Metropolitan Asylum Hospitals and 3 in the Highgate Small pox Hospital on Saturday last. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2973, against 3299, 3254 and 3121 on the preceding three Saturdays, 234 new cases were admitted during the week, against 246 and 202 in the preceding two weeks. The deaths referred to diseases of the respiratory organs, which had been 380, 523 and 953 in the preceding three weeks, further rose to 984 last week and exceeded by 247 the corrected average. The causes of 125, or 2.1 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Oldham, Sunderland, Newcastle-upon Tyne and in five other smaller towns, the largest proportions of uncertified deaths were registered in West Ham, Birmingham, Leicester, Salford and Blackburn.

HEALTH OF SCOTCH TOWNS

The annual rate of mortality in eight of the principal Scotch towns, which had been 28.5 and 27.1 per 1000 in the preceding two weeks, rose again to 28.5 during the week ending Jan. 14th, and slightly exceeded the mean rate during the same period in the thirty three large English towns. The rates in the eight Scotch towns ranged from 17.3 in Aberdeen and 22.4 in Greenock to 30.9 in Perth and 34.6 in Paisley. The 803 deaths in these towns included 79 which were referred to measles, 11 to diphtheria, 11 to whooping cough, 8 to scarlet fever, 6 to diarrhoea, 4 to "fever" and not one to small pox. In all, 119 deaths resulted from these principal zymotic diseases, against 131 and 146 in the preceding two weeks. These 119 deaths were equal to an annual rate of 4.2 per 1000 which exceeded by 2 the mean rate last week from the same diseases in the thirty three large English towns. The fatal cases of measles, which had been 86 and 79 in the preceding two weeks, were again 79 last week, of which 37 occurred in Glasgow, 14 in Edinburgh, 14 in Dundee and 10 in Leith. The deaths referred to diphtheria, which had been 9 and 10 in the preceding two weeks, further rose to 11 last week and included 6 in Glasgow and 2 in Dundee.

The 11 fatal cases of whooping cough were below those recorded in recent weeks and included 9 in Glasgow. The deaths from scarlet fever, which had been 7 and 17 in the preceding two weeks, declined to 8 last week, of which 5 occurred in Glasgow and 2 in Aberdeen. The deaths referred to diseases of the respiratory organs in these towns, which had been 168 and 212 in the preceding two weeks, further rose to 241 last week and exceeded by 15 the number in the corresponding week of last year. The causes of 61, or nearly 8 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN

The death rate in Dublin, which had been 33.4 and 31.3 per 1000 in the preceding two weeks, rose again to 34.6 during the week ending Jan 14th. During the thirteen weeks of the quarter ending the 31st ult. the death rate in the city averaged 24.4 per 1000, against 18.4 in London and 23.9 in Edinburgh. The 232 deaths in Dublin during the week under notice showed an increase of 22 upon the number in the preceding week, and included 7 which were referred to "fever," 3 to diphtheria, 3 to whooping cough, 1 to measles, 1 to diarrhoea, and not one either to small pox or scarlet fever. In all, 15 deaths resulted from these principal zymotic diseases, equal to an annual rate of 2.2 per 1000, the zymotic death rate during the same period being 2.3 in London and 3.7 in Edinburgh. The deaths referred to different forms of "fever," which had been 4 and 11 in the preceding two weeks, declined to 7 last week. The 3 fatal cases of diphtheria exceeded the number recorded in any week since May, 1890. The deaths from whooping cough, which had been 2 in each of the preceding two weeks, were 3 last week. The 232 deaths registered in Dublin last week included 29 of infants under one year of age and 75 of persons aged upwards of sixty years, the deaths both of infants and of elderly persons exceeded the numbers recorded in any recent week. Five inquest cases and 5 deaths from violence were registered, and 83, or more than a third, of the deaths occurred in public institutions. The causes of 22, or more than 9 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF CALCUTTA.

The health officer for Calcutta reports that the total number of deaths registered in the town of Calcutta during the week ending Nov 5th last was 221, against 219 and 218 in the two preceding weeks and lower than the corresponding week of last year by 51. There were 11 deaths from cholera, against 14 and 7 in the two preceding weeks, the number is lower than the average of the past quinquennium by 10. There were no deaths from small pox during the week. There were 11 deaths from tetanus. The mortality from fevers and bowel complaints amounted to 96 and 24 respectively. The general death rate of the week was 24.7 per mille per annum against 25.5, the mean of the last five years. The total number of deaths registered during the week in the amalgamated area of suburbs ending Nov 5th was 138, lower than the corresponding week of last year by 36. There were no deaths from cholera, against 2 and 2 in the two preceding weeks, no deaths from small pox during the week, 12 deaths from tetanus, and the mortality from fevers and bowel complaints amounted to 61. The general death rate of the week was 33.4 per mille per annum, against 40.9, the mean of the past five years. The general death rate of the combined area is equal to 27.4.

THE SERVICES

MOVEMENTS IN THE MEDICAL STAFF

THE following officers have arrived from India in the *Crocodile*. Surgeon Lieutenant Colonel O'Connell and Surgeon Captains Crooke and Kennedy. Surgeon Lieutenant Colonel Anderson has been transferred from Sheerness to the Western district, Surgeon Captain Nash from the North Eastern district to Netley, Surgeon Captain Fayle to Alderney and Surgeon Lieutenant Thompson to Hounslow. Surgeon Captain McLaughlin has arrived home on the completion of a tour of service in West Africa.

Surgeon Captain R. E. R. Morse has proceeded to Sheffield and assumed Medical Charge of the Station

Hospital and troops there, vice Surgeon Captain M. O. D. Braddell, who has been placed on the sick list. Surgeon Captain F. Harris has assumed Medical Charge at Devonport. Surgeon Major R. G. Thomsett, doing duty at the Royal Victoria Hospital, Netley, has been placed under orders for duty in the North Eastern district. Brigade-Surgeon Lieutenant Colonel H. J. O'Brien is under orders to relieve Brigade Surgeon Lieutenant-Colonel J. Maxham, at Barbados, the latter officer returning—tour expired—to England. Surgeon Lieutenant Colonel L. A. Irving has been appointed successor to Brigade-Surgeon Lieutenant Colonel W. T. Martin, in charge of the hospital for insane soldiers at Netley. Brigade Surgeon Lieutenant-Colonel J. H. Hughes is appointed to the Royal Infirmary, Dublin, vice Brigade-Surgeon Lieutenant-Colonel H. J. O'Brien ordered abroad. Surgeon Major General F. W. Wade, Medical Staff, has been appointed Principal Medical Officer, Aldershot, vice Surgeon-Major General Faught.

INDIA AND THE INDIAN MEDICAL SERVICES

Surgeon Captain C. H. L. Palk, Madras Medical Service, is to be Officiating Medical Officer, vice Surgeon Major C. L. Swaine, M.D., who has been appointed to officiate as Sanitary Commissioner, Hyderabad assigned districts. Surgeon-Captain R. J. Baker, M.D. I.M.S. (Bombay), Resident Surgeon, European General Hospital, and Professor of Materia Medica and Pharmacy, Grant Medical College, Bombay, is appointed to be Residency Surgeon. The services of the undermentioned medical officers of the Madras Establishment are placed at the disposal of the Chief Commissioner of the Central Provinces. Surgeon Captain, P. C. H. Strickland and Surgeon Captain W. D. Sutherland. Surgeon-Lieutenant-Colonel B. Evers, M.D., Civil Surgeon, Raipur, is placed temporarily in charge at the Raipur Central Gaol in addition to his own duties. Mr. M. Windross, Officiating Civil Surgeon, Bilaspur, is reappointed assistant to the Civil Surgeon, Jubbulpore. The undermentioned officers of the Army Medical Staff, expected from England for duty in India, have been posted to the Bombay Command. Surgeon Captain R. Kirkpatrick, in succession to Surgeon Captain W. J. Cropton, and Surgeon Captain N. Fruehne, in succession to Surgeon-Captain R. J. A. Durant. Surgeon Colonel W. H. Roberts, M.D., I.M.S., Principal Medical Officer, Secunderabad district, has been granted leave out of India (m.c.) from Nov 8th, 1892, to June 30th, 1893, inclusive. The services of Surgeon Captain H. Herbert, F.R.C.S., have been placed at the disposal of the Political Department for employment on special duty in Kathiawar for three months, on his relief by Surgeon Major W. K. Hatch, M.B., F.R.C.S., and Surgeon Captain J. G. Hojel, M.B., B.S., is appointed, on his relief by Surgeon Captain Child to act as Resident Surgeon, St. George's Hospital, vice Surgeon Captain Baker. The following appointments have been made—Surgeon Captain M. A. I. Collie, M.B., C.M., to be Resident Surgeon, St. George's Hospital, and Surgeon Captain B. B. Gryfoot to be Secretary to the Surgeon General with the Government of Bombay.

NAVAL MEDICAL SERVICE.

The following appointments have been made—Fleet Surgeons. Henry D. Stanstreet to Cape of Good Hope Hospital, Thomas Bolster to Royal Victoria Yard, Deptford, Herbert M. Ellis to the *Victoria*, and John C. B. Maclean to the *Cambridge* (all dated Jan 18th, 1893). Staff Surgeon John A. Collet to the *Collingwood* (undated). Surgeon and Agent Alexander W. Hood at Mullaghmore (dated Jan 14th, 1893), George Sinclair at Kirkwall (dated Jan 18th, 1893).

VOLUNTEER CORPS

1st Essex (Eastern Division, Royal Artillery). Surgeon Lieutenant A. H. Fowler resigns his commission.—7th Lancashire (Manchester Artillery). Surgeon Captain A. I. Chamberlain resigns his commission.—1st Cheshire. Wm. Robert Drizell, M.B., to be Surgeon Lieutenant.—2nd (the Weald of Kent) Volunteer Battalion, the Buffs (East Kent Regiment). Surgeon Captain W. M. Harmer to be Surgeon Major.—1st Volunteer Battalion (the Royal Warwickshire Regiment). James Martin Young, M.B., to be Surgeon Lieutenant.—2nd (Prince of Wales's) Volunteer Battalion (the Devonshire Regiment). Surgeon Lieutenant M. Leamon resigns his commission, also is permitted to retain his rank and to continue to wear the uniform of the Battalion on his retirement.—2nd Volunteer Battalion, the Princess of Wales's Own (Yorkshire Regiment). Surgeon Captain R. B. Low to be Surgeon Major (all dated Jan 14th, 1893).—1st Nottinghamshire (Robin Hood) Sur

on Lieutenant-Colonel T Wright resigns his commission, also is permitted to retain his rank and to continue to wear the uniform of the Corps on his retirement.

BRIGADE-SURGEON BENJAMIN COWAN KERR, M.D.,
L.R.C.S. EDIN

Brigade-Surgeon Kerr, Army Medical Staff, who died at Clifton on Jan. 3rd, gained his appointment as Assistant Surgeon in 1855 and in 1871 was promoted to the rank of Surgeon. Two years later he was made Surgeon-Major and in 1882 Brigade-Surgeon. He took part in the Kafir War of 1879 and 1880, and retired in 1889.

"KNOWLEDGE IS POWER."

Naval medical officers have of course their own duties to perform, but it occasionally happens that they are able to render effective aid and good service outside their own immediate sphere of duty, of which the following may be taken as an instance. H.M.S. *Pallas* got ashore in November last in one of her recent exploratory visits to the Pescadores, owing to a tidal current having suddenly swung the ship round on a shingly part of the eastern reef, from which, however she subsequently got off without sustaining any appreciable damage. We learn from a correspondent writing from South Formosa to the *North China Herald* of Dec. 9th last, that a sailing cutter was sent off from the *Pallas* in charge of Staff Surgeon Gipps R.N., to Makung in search of aid and that, owing to a heavy sea, the crew of the cutter had a very exciting time of it. The natives of the islands to the north and windward of the *Pallas* came out in their large fishing-boats and the steam tug *Samson* also went to the assistance of the *Pallas*. The steam tug unfortunately also got aground for a time on one of the soft coral reefs. Staff Surgeon Gipps, owing to his knowledge of how to make use of the naval semaphore and Morse signals, is stated to have rendered most effective aid on the occasion by his unflinching zeal and ability in conveying orders between the two vessels.

FIRE AT DEVONPORT MILITARY HOSPITAL.

An alarming fire broke out early on the morning of the 17th inst. at the Military Hospital at Devonport and destroyed one of the five blocks of that building. The hospital was full of patients at the time, but all were removed from the burning portion to a place of safety. At the top of the block there were five serious cases. The supply of water was at first insufficient, but when more water was obtained the fire brigade and naval authorities were able to cope with the outbreak. The fire, which broke out in the top storey and spread to the second, was got under control about seven o'clock. Its exact cause has not yet been ascertained, but it is believed that the fire arose from an overheated iron pipe from the stove having ignited the woodwork of the ceiling.

THE DEATH OF LIEUTENANT D B ELPHINSTONE, R.E., AT THE EUROPEAN GENERAL HOSPITAL, BOMBAY

The *Times of India* gives a long account of the sad accident which occurred to this officer and resulted in his death on Dec. 28th at the time he was a patient in the European General Hospital. It appears that Lieutenant Elphinstone, R.E., was admitted to the hospital suffering from a severe attack of malarious fever on Dec. 25th, 1892. He was placed in one of the wards on the top floor of the new building in which there were several other patients at the time. He seems on the 28th ult. to have left his bed during the brief absence of the nurse from the ward and to have thrown himself from the hospital corridor to the ground below. He died about two hours afterwards of ruptured spleen and abdominal injuries.

Correspondence.

'Audi alteram partem.'

INNERVATION OF THE PALATE

To the Editors of THE LANCET

SIRS,—No notice appears to have been taken in THE LANCET of Jan. 14th of No. 2 of the series of cases of facial palsy in children recorded by Dr George Carpenter on Jan. 7th, in which the soft palate was said to be paralysed on one side. As none of the leaders in neurology have commented on this case, will you kindly allow one of the rank

and file to offer a few remarks. At the beginning let me say that Dr Carpenter's case is a very unconvincing one, he does not state whether the palate moved on mechanical stimulation, he does not even say whether this test was applied. Secondly, the tonsils had both been partially removed before her attack of scarlet fever (presumably for chronic hypertrophy) and the left one is stated to have been enlarged on her return to the Evelina Hospital. I suppose this tonsil was in a condition of subacute inflammation.

In the article on Tonsillitis in "Fowler's Dictionary of Practical Medicine," Dr de Havilland Hall writes "If fluids are taken, they frequently return by the nose." It is now well known that post-nasal growths frequently coexist with enlarged tonsils, possibly they were present in this case. I believe I am correct in saying that in some cases of post-nasal growths liquids return by the nose during swallowing. This symptom simply shows that the soft palate has not properly shut off the nasal cavity from the pharyngeal. I admit that palsy of the palate is the commonest cause of this but any local condition of swelling growths &c. may so interfere with the proper coördination of the muscles concerned in the act of swallowing that nasal regurgitation may occur. I venture, therefore, to demur to Dr Carpenter's statement that "the fact that fluids returned through the nose shows unmistakably that there was paralysis." In connexion with this subject let me briefly refer to a case of diphtheria which was under my care two years ago. A girl of fifteen, whose younger sister had just had a very mild attack of diphtheria in the same house, was seized with the disease in that severe form in which most of the stress of the complaint falls on the nose and naso-pharynx, there was also extreme swelling of the throat and neck, rendering examination and local applications difficult of performance. Quite early in the course of the disease (in the first week) fluids sometimes returned through the nose during swallowing. Throughout her illness I could find no palsy of the face, accommodation, or limbs (motor or sensory), her knee jerks were normal and equal on the two sides to within one hour of the time of her death on the nineteenth day. It is interesting, as bearing on this question of palsy of the palate, that as the swelling of the throat subsided, together with the offensive sanious nasal discharge, her power of swallowing improved, though her general condition became steadily worse. Surely if in this case the palate was paralysed, this should have continued and become complete while her illness was going on steadily to the fatal termination by cardiac failure.

To conclude, Dr Carpenter has not, in my opinion, proved that there was unilateral palsy of the palate in his case. It is a difficult thing to prove that two such authorities as Drs. Hughlings Jackson and Gowers are wrong in their observations on the innervation of the soft palate, moreover, the experiments of Dr Beever and Professor Horsley are, I believe, generally regarded by physiologists as having definitely proved that the levator palati is supplied by the accessory nerve to the vagus. Any cases related in order to overthrow these conclusions from clinical and experimental work ought to be so accurately and fully reported that there is no serious omission as to the tests applied in their investigation.

I am, Sirs yours truly

LEONARD J KIDD M.D. BRUX. &c

George street Hanover square W., Jan. 17th 1893

CAPE LUNACY PROCEEDINGS

To the Editors of THE LANCET

SIRS,—I was under the impression, prior to reading a cutting from a local paper called the *Cape Argus* that no person could be pronounced of 'unsound mind,' consistently at any rate, by any judge without the support of medical testimony. I do not suppose any British jury would venture to return such a verdict unsupported by special expert evidence, but the extract I send clearly shows that I labour under a false impression—a sort of delusion, I suppose. Although the lay report may not be altogether reliable, it seems sufficiently clear perhaps for me to venture to point out to you that here a young man has been permitted to deal with his property up to twenty nine years of age—his brother's testimony goes to establish that this young man has been spending money in a somewhat reckless manner, running up accounts and signing bills. Only very recently has this young man shown any signs of violence, then it seems only one sign has been proved. The excuse advanced for depriving this young man of the enjoyment of his estate is that

"he might get better if the financial worry which was now troubling him was got rid of." On the other hand, this excuse seems to suggest that he has been actively engaged in financial undertakings. However, without medical evidence, judging by this lay report, this young man, you will observe, is pronounced of unsound mind and placed under restraint without the usual medical certificates. Of course you will accept the fact that the learned Chief Justice merely followed the powers vested in him by the Lunacy Act in force in this colony, but in this particular example it seems very hard to be able by "law" to deprive a British subject of property and liberty upon what appears to be in complete evidence. Although the learned Chief Justice adds the comforting remark "that it would always be competent for him, should he become sound of mind, to apply to the Court for his discharge," there might be a better prospect perhaps of this advice being consummated if the sufferer were placed in an asylum instead of being left with his friends, when it is alleged he has been growing worse from ten to twenty nine years of age. Possibly this is a hopeless case. In an asylum his chances of recovery would be greater, if we take for example the case of a lady who was declared of "unsound mind" after the usual manner and duly placed in an asylum, where before a month had expired she appeared before the Court and was declared to be of "sound mind."

I am, Sirs, yours truly,

Cape Colony, Dec. 23rd, 1892. S CARTWRIGHT REED, M D

THE NEW MEDICAL BILL FOR NEW SOUTH WALES

To the Editors of THE LANCET

SIRS,—As a copy of this Bill has lately been forwarded to me I should like to bring a few of its defects before the profession in Australia. The Bill provides for the formation of a Medical Council, to consist of ten practitioners, five of whom are to be appointed by the governor of the colony and five by the Senate of the University of Sydney. I would point out that no direct representation is given to the profession on the Council and, further, that no arrangement is made for the payment of members of the Council. It is to be hoped that, if the Bill has not yet passed, two clauses will be introduced providing for the election of direct representatives and for the payment of members. To me it seems strange that in New South Wales the payment of members is not provided for, especially so because in the Health Act, 1890, of the Colony of Victoria (which has provided for the formation of a Board of Health and a Minister of Public Health) full arrangements have been made by Section 11 for the paying not only of travelling expenses but also for attendance. I would further suggest that New South Wales should follow the example of Canada, and introduce a clause providing for the prosecution of unregistered practitioners. Hoping practitioners will accept these few hints,

I am, Sirs, yours truly

Liverpool.

ROBERT R. RENTOUL.

"THE DRAINAGE OF MIDDLE-CLASS DWELLINGS HOUSE-TO-HOUSE VISITATION"

To the Editors of THE LANCET

SIRS,—If you can carry the question of house to house visitation the country at large will be deeply indebted to you, for it must tend very materially to lessen the amount of zymotic disease. At the present time not only do sanitary defects which require very careful examination to detect remain uncorrected, but those also are neglected which are patent to the meanest scientific observer, and as a consequence lives are being daily sacrificed which with a proper amount of sanitary supervision might be preserved. I know of houses some built but a very few years ago, and not very far removed from my own residence, with ventilating shafts about a quarter or half the diameter they should be and opening only just above the bedroom windows, while in others the house drains were originally neither laid on concrete nor were they properly jointed. We have lately had an inspector deputed by the Surrey County Council to examine the system of main drainage in this district, but it would have been far more satisfactory if the house drainage had received more atten-

tion, inasmuch as zymotic disease arises more frequently from the latter being defective than from the other. If the latter be perfect we can await, as you say, the advent of cholera at any rate, without fear. I am told that house-to-house visitation is already in force at Brighton and has been productive of much good. But in order that defects may be detected we want three things: (1) properly qualified medical officers of health unconnected with private practice, (2) properly qualified inspectors of nuisances, (3) properly qualified plumbers. Without these three requirements being fulfilled the work cannot but be done very imperfectly. I would further suggest: (1) The report of every inspection made by the inspector of nuisances should be daily made to the medical officer of health, (2) no sanitary work undertaken by any plumber should be allowed to pass unless it has undergone inspection by the medical officer of health or sanitary inspector.

In course of time sanitary law will no doubt be more perfect than it now is, and the present Secretary of the Local Government Board ought to render effective service in this particular.

Surbiton, Jan. 16th, 1893.

I am, Sirs, yours truly,

F P ATKINSON.

P S.—The ventilating shafts attached to the houses between Earlsfield Station and Clapham Junction require, I think, the sanitary inspector's attention. They are a good example of the size sometimes allowed.

DEATH UNDER CHLOROFORM

To the Editors of THE LANCET

SIRS,—Dr Hill's revelation and Mr Edgelow's version of the cause of death, published under the above heading in your issue of Dec 10th, 1892, do not remove but add to the existing confusion in the matter of "the safe administration of chloroform." These letters lead to the question, What is "the open method of administering chloroform" which teachers in anaesthetics recommend as the safest to employ? If one method is called the open method, there is probably also a closed method. Some of your readers will probably be so kind as to give, through THE LANCET, the desired correct information of the meaning of these terms, which cannot fail to be of the highest interest. No one will doubt that as long as the respiration of a patient under chloroform remains normal and regular there can be no danger. Yet we are told in the records of fatalities under chloroform that the respiration was watched with the utmost vigilance from start to finish. There then remains no other explanation but that the method of administration employed must be at fault which permitted the intake of too concentrated vapour causing a too rapid effect on the system, intensified by the existence of residual concentrated vapour in the lungs which probably accounts for the sudden and irremediable death. The lesson drawn from such accidents is. Commence in every case, of whatever age and condition the patient may be, the administration of chloroform with vapour very much diluted, and gradually and systematically increase the strength of the vapour to the strongest the particular patient is able to inhale with normal and regular respiration. The first gasp or irregularity in the respiration must be taken as the first and only sign of approaching danger. If this is at once corrected, as it can be by lessening the strength of the vapour, no more harm can follow such occasional gasps under chloroform than we expect to follow the gasps we constantly are compelled to make in ordinary life during speaking, singing

¹ For the administration of chloroform no inhaler is needed but a piece of lint folded two or three times a cambric handkerchief, or piece of linen will answer every purpose. A convenient form of inhaler consists of one which has the advantage of economising the chloroform consisting simply of a piece of flannel stretched across a wire frame supporting a small piece of sponge. The anaesthetist should provide himself with a drop bottle holding at least an ounce and should have a supply of three or four ounces in reserve if necessary. Having sprinkled the lint or inhaler with a small amount of chloroform, it is turned moist side down towards the patient's mouth. At first it should be held about an inch away, and as the chloroform evaporates should gradually approach the mouth. As the moisture disappears fresh chloroform should be added. The aim of the administrator is to allow air to freely enter the patient's lungs mixed with about 5 per cent. of chloroform vapour as soon as the agent begins to take effect the patient, especially if addicted to alcoholism begins to struggle. It is not wise to forcibly restrain him except to prevent damage being done either to himself or to those around. It is well to remember that the more continuously chloroform is administered at this stage the less the patient struggles. Children usually cry, and in the deep inspirations which ensue a large amount of vapour is taken in.—Copied from a most recent edition of "Guide to the Administration of Anaesthetics."

r muscular exertion No other of the usual and alarming signs of danger need be looked for—they cannot occur

I am, Sirs, yours truly,

HEALTH

Jan. 9th, 1893.

*** We understand the "open method" to be the evaporation of chloroform from a cloth as recommended by Syme—

SD L.

MANCHESTER

(FROM OUR OWN CORRESPONDENT)

The Small pox Epidemic

THE one thing uppermost in men's minds at the present time is the prevalence of small pox in this city, which has recently increased to such a degree as to deserve the title of epidemic. The reported cases, which, according to the official reports had increased during the four preceding weeks from 12 per week to 21, suddenly increased last week to 67 and since then the disease has continued to spread. The distribution of the attacks is still very general, for of the eleven registration subdistricts which together constitute the city, not less than ten have furnished one or more cases of small pox during the last fortnight. Cases have been received from Her Majesty's Prison, from the Workhouse Casual Wards from the out patient department of the Royal Infirmary, and from several of the largest common lodging houses in the city. Such being the distribution of infection in Manchester, and its spread having been so steady and progressive during the last five or six weeks, there seems every likelihood that we are on the eve of a very serious epidemic of small pox. It is reported that yesterday a tramp was found to be suffering from small pox at a large common lodging house. The inspector visited him and after making arrangements for his removal left the house. As soon as his back was turned the man bolted through the streets and was temporarily lost sight of. After the lapse of some hours the patient was captured and his removal to hospital was effected, but not until he had almost certainly infected a considerable number of his fellows. At last the Corporation seem to have become convinced of the necessity of providing adequately for the isolation of small pox cases in Manchester. Cases have been sent to Monsall so rapidly of late that the hospital is within measurable distance of being full, and if additional arrangements had not been set on foot within the last few days the Corporation would have been in the undignified position, before many more days had elapsed, of having to confess themselves unable to cope with an epidemic which, at present at any rate, is of but moderate proportions. For some weeks past they have been making inquiries for suitable sites, but of course they have had great difficulty in persuading land owners to submit to the establishment of a small pox hospital in their neighbourhood. It is rumoured that with respect to one site at the south side of Manchester legal proceedings have already been instituted in order to prevent the Corporation from utilising land at present in their possession for small pox hospitals purposes. In one direction, however, the Corporation are evidently proceeding on right lines. Recognising the fact that Monsall Hospital will soon be full, they are now erecting temporary pavilions on a large plot of ground contiguous to the present hospital, and they hope to have one or more of these pavilions ready for occupation by the end of the present week. They are also making arrangements to completely separate the small pox hospital from the hospital appropriated to the several "fevers," and are surrounding both establishments with a fence of suitable construction. They are doing even more than this, for they have taken steps to adapt some large buildings in their possession, in a part of the city not far removed from Monsall, to the purposes of a convalescent hospital, so that as soon as the patients have so far recovered at Monsall as to render their removal a safe proceeding they will be sent in the hospital ambulances to the house of recovery as it is called, which building, it is hoped, will be ready for their reception in the course of a very few days. Hitherto the type of the disease in Manchester has not been severe. Several bad confluent cases have been observed and some of them have died, but the attacks have been for the most part fairly mild, and up to the present time the case fatality has been decidedly low.

Vaccination and Revaccination

In the course of last week Dr Hubert Arey paid a visit to Manchester on behalf of the Local Government Board, with the object of inquiring into the administration of the Vaccination Acts in the township of Manchester. The guardians of all three of the unions which are contained in the city are fully alive to the necessity of bestirring themselves and their officers for the vaccination and revaccination of the people. In all three of these areas placards have been issued drawing attention to the desirability of vaccination and revaccination and offering additional facilities for the performance of the operation free of charge to the public. It is disappointing to hear that hitherto, at all events the people of Manchester have not availed themselves to any appreciable extent of the facilities which have been so freely offered. The better class of the community are protecting themselves in large numbers, but the poorer classes, who are exceptionally exposed to infection, seem to be utterly careless and to treat the recommendations of the guardians and of the Corporation with simple indifference.

January 17th.

BIRMINGHAM

(FROM OUR OWN CORRESPONDENT)

General Hospital.

SOME important changes in the internal administration of this institution have lately come into operation. Hitherto it has been customary for the patients to provide their own cutlery, crockery, tea, coffee and sugar with periodical supplies of clean linen. This custom has been found to be attended by many inconveniences and abuses, and it is now proposed that the institution should find all these things except the linen. Of course a financial burden will be imposed upon the hospital, but the patients and the officers of the hospital will reap the benefit. The contraband articles of all and indiscriminate kinds smuggled into the wards by invidious and indiscreet friends will now gradually decline, and, it is to be hoped, become a reminiscence of bygone times. The infinite harm and injury done by this abuse is well known and has always been difficult to combat.

The Queen's Hospital

An innovation at this institution, the result of which remains to be proved by time, is the subject of some criticism. It is proposed on Feb 1st to charge an additional registration fee to those who have once passed through the casualty room. The object is to check the abuse by those who can afford to pay and who come mainly with injuries and complaints of a trivial character. A large number of these come from the locality in which the hospital is placed and may reasonably be treated quite as well at home by practitioners in their own neighbourhood after the first visit to the hospital. Thus whilst the General Hospital increases its obligations by providing for the patients the Queen's Hospital seeks to improve its finances by charging a small fee to certain of those patients who need, it is said often unnecessarily, its assistance.

Hospital for Women

A vacancy has occurred in this institution by the resignation of Mr Lawson Tait. Already there are several candidates in the field anxious to place their services at the disposal of the hospital.

January 18th.

NORTHERN COUNTIES NOTES

(FROM OUR OWN CORRESPONDENT)

Sight Tests for Railway Servants

A MEETING of railway servants, largely attended, has been held at Gateshead to protest against the introduction of the new eyesight test. The men do not object to tests but to the testing methods adopted. For instance, they object to wool being used, and say that it is more adapted to young ladies going to Berlin wool stores and not for practical men. They have no objection to being tested by the signals and lights which they are accustomed to see and work with night and day but very strongly object to alphabets and coloured wools.

Elswick Workmen and Newcastle Medical Charities

The workmen of Sir W G Armstrong, Mitchell and Co at Elswick have contributed during the past quarter the large sum of £324 to various Newcastle medical charities. The bulk of the money goes to the Royal Infirmary, while about £100 is distributed amongst the minor charities.

The Queen's Nursing Association at Darlington

The first annual meeting of the Queen's Nursing Association has been held at Darlington and the report was highly satisfactory. The mayor, who presided, and other prominent persons, including medical men, spoke highly of the work of the Association.

Illness of the Medical Officer of Health of Sunderland

I regret to have to state that Mr Wood, formerly police surgeon for Sunderland, and now medical officer of health, is suffering from scarlet fever. Together with two of his children Mr Wood has been removed to the new infectious diseases hospital. The latest accounts of Mr Wood's and his children's condition is good.

The Small-pox Epidemic in the North.

Small pox has now assumed an epidemic form, indeed, there are not many towns in the northern counties free from it. Cases have been notified at Sunderland and at Houghton le Spring, about six miles from Sunderland, and the disease has been lingering in the Northallerton district for some time. An outbreak is also reported at Durham County Prison, where there are several cases. At some of the colliery villages near the city of Durham cases have also been noticed.

Lectures on Nursing at Carlisle

A course of lectures on Sick Nursing has just been commenced at Carlisle under the auspices of a committee of ladies. Dr Lediard is the lecturer, and his syllabus of the eight lectures which he proposes to give show that they will be of a thoroughly practical and useful character. Each lecture is illustrated by demonstrations in which nurses of the Carlisle Infirmary take part. We understand that upwards of 300 women of all ranks have joined the class, and there can be no doubt of its value and importance.

Newcastle-on Tyne, Jan 17th.

SCOTLAND

(FROM OUR OWN CORRESPONDENTS.)

Health of Aberdeen

THE returns of zymotic cases last week were Measles, 36, scarlet fever, 11, diphtheria, 8, typhoid fever, 6, erysipelas, 12 total cases, 73, being an increase of 6 as compared with the previous week. The number of cases of measles continues to decrease, the increase being in erysipelas and diphtheria. Dr Hay reports two deaths from influenza in December, as against one in the previous month and 21 in December, 1891. Influenza is undoubtedly present in the city, but it is of a less serious type than in previous visitations.

Aberdeen. A Year's Work in the Sanitary Department

The sanitary inspector reports that during 1892 the number of nuisances registered was 6169 and the number abated 5593, 936 patients were removed to hospitals, 6706 supervised at home, 6704 houses &c. disinfected after infectious diseases and 1052 sets of infected bedding and clothing disinfected and washed. There were 124 seizures of unwholesome food, comprising 18,985 lb of beef, 306 lb of mutton, 12 lb of tinned meat, 7½ lb of ham, 168 lb of offal, 41,955 lb of wet fish, 224 lb of dried fish, 2016 lb of smoked fish, 990 lb of fruit, 64 lb of jam and 27 lb of bread, the total weight being over 28½ tons. The fines amounted to £6715s 6d.

Aberdeen Ambulance Association Classes

A meeting was held last Saturday for the purpose of making arrangements for the formation of ambulance classes under the auspices of the above Association. Over 400 people were present, including a detachment of city police. Rev James Smith, St. George's in the West, presided and gave a brief introductory address, followed by Chief Constable Wyness. In the absence of the lecturer, Dr Riddell, through illness, Dr M'Gregor took his place and explained the object of the lectures. Mr William Smith, advocate, secretary of

the Aberdeen Ambulance Association, explained the system on which certificates were granted and, in closing, made strong appeal to the public for funds to enable the Association to carry on its good work.

Public Health

Matters are not mending in Glasgow so far as small pox concerned, there being now (Tuesday) 42 cases and treatment. We have had Dr Sidney Coupland, the representative of the Royal Commission on Vaccination, in Glasgow for some days making inquiry into the manner in which the authorities are endeavouring to meet the epidemic. Dr Russell's report contains some very instructive examples the ways in which the disease is spread.

January 18th

IRELAND

(FROM OUR OWN CORRESPONDENTS.)

National Children's Hospital, Dublin. Albert Victor Memorial Bed

ON Saturday last his Excellency the Lord Lieutenant opened the Albert Victor Memorial Bed in the Children's Hospital, Harcourt-street. An address having been presented to his Excellency, he declared the memorial bed dedicated to the use of the suffering and to the memory of the Royal Highness Prince Albert Victor, Duke of Clarence and Avondale. Over the cot hung a portrait of the deceased prince bearing an inscription to the effect that it was presented to the hospital by their Royal Highnesses the Prince and Princess of Wales. A brass shield at the head of the bed bore the following inscription: "In memoriam Albert Victor Memorial Cot. Founded in memory of H.R.H. Albert Victor Christian Edward, Duke of Clarence and Avondale, K.I., K.P., Major of the 10th Royal Hussars. Born Jan. 8th, 1884. Died Jan. 14th, 1892. Supported and endowed by subscriptions from some of Her Majesty's subjects in Ireland as a tribute of loyal affection and regard, this bed was publicly opened by His Excellency Baron Houghton, Lieutenant of Ireland, Jan. 14th, 1893."

Barrington's Hospital, Limerick.

The Sir Croker Barrington Memorial Committee have reported that a field adjoining the hospital has been enclosed, laid out as a recreation ground for the patients, also the portion of the hospital formerly occupied by the city dispensary has been fitted up as private wards, three in number. The total expenditure in carrying out these works came £486 18s 5d. During the past year 539 patients were admitted into the wards of the hospital and 2917 persons were treated as extern patients. By the demise of Mr Michael Riordan hospital lost an upright and trustworthy physician. It has been decided by the committee to discontinue as unnecessary the employment of probation nurses from the Dublin Nursing Institution, and in future to train their own nurses, so as to be provided with a staff of trained nurses for the hospital who would also be available for private cases when required. Towards the expenses of the institution the Corporation of Limerick contributes an annual grant of £300.

Ashford Testimonial

This week there will be placed in position a memorial in Irish granite of the late Mr Ashford, who for many years lived at Ball's Bridge, near the city, and who had so endeared himself to the poor of Ringsend and neighbourhood that they subscribed the necessary funds for a memorial of his charitable deeds. One side of the monument bears the following inscription: "Erected January, 1893, by public subscription, to commemorate the memory of Dr W. Ashford for the valuable services he rendered for a period of half a century to the poor of St. Mary's parish."

Mr Callaghan, late visiting physician to the Cork Union Workhouse, has received a retiring allowance of £75 a year.

Dr Norman J. Townsend has been elected medical officer to the Cork Protestant Fellowship Society.

The Belfast Hospital for Consumption and Diseases of the Chest

The annual meeting of this charity was held on Jan 11th. There were during the year 864 extern and 50 intern patients. Mr D. C. Stack has been appointed surgeon in place of Mr McKisack, resigned. From the balance sheet it appears that there is a sum of over £18 in hand. The building fund was

1869 15s. 2d., out of which the lands for the site of the new hospital &c. had been purchased, leaving a balance to the credit of the fund of £2352 2s. 4d. There was a total investment in the Endowments account of £1205 9s. 6d.

The Belfast Medical School and the Royal University

I understand that a memorial has been sent to the Senate of the Royal University by the students of the Belfast Medical School in which they state that, owing to the resignation of Dr. Swann of Dublin, a vacancy has occurred in the list of medical examiners of the Royal University, and although on average of about 50 per cent. of the medical students of the University have received their professional education in Belfast, yet out of the ten examiners at the degree examination there is only one from that city. The students therefore ask the Standing Committee of the Royal University to consider this very inadequate representation of the Belfast School of Medicine on the Board of Examiners and to forthwith elect to appoint a Belfast ophthalmic surgeon to the vacancy. The petition is signed on behalf of the Belfast students by Dr. Morrow, president, and by Mr. T. Houston, B.A., the secretary of the Belfast Medical Students Association. I understand that two Belfast gentlemen are candidates for the post of examiner in ophthalmology—Dr. J. Walton Browne, who is Senior Surgeon to the Royal Hospital and Ophthalmic Surgeon to the Belfast Ophthalmic Hospital, and Dr. Nelson, who is Ophthalmic Surgeon to the Royal Hospital and to the Belfast Hospital for Sick Children.

The Belfast Hospital for Sick Children

At an election of medical officers held last week Dr. Stack was appointed surgeon and Dr. S. B. Smyth assistant surgeon.

Proposed Clinical Instruction at the Belfast Workhouse

At a meeting of the Board of Guardians held on Jan. 17th a resolution was moved by one of the members that the resolution approving the proposals submitted by Professor Curran of giving clinical lectures to medical students in the infirmary and hospital of the workhouse be rescinded, but after a very lengthened and heated discussion it was lost eleven voting for and fourteen against it. The question is now in the hands of the Local Government Board.

January 18th.

BERLIN

(FROM OUR OWN CORRESPONDENT.)

The Berlin Medical Society

THE Berlin Medical Society held a general meeting in the Langenbeck House on the 11th inst. The number of the members has risen to 873. Professor Virchow was re-elected President by 139 out of 145 votes, three being given to Professor von Bergmann and three to Professor von Bardeleben. Professor Virchow accepted the office with thanks, but gave it as his opinion that the assembly should consider future circumstances as the only course he could steer was the old one. The assembly declared by applause that it was satisfied with the old course. The other members of the Managing Committee—Drs. Bergmann, Herroch, E. Fränkel, Senz or Korte, Falk and Abraham—were also re-elected. Professor Virchow alluded in warm terms to the late Privy Counsellor Dr. Hollstein and his "Manual of Anatomy," which he (Professor Virchow) still used as a book of reference.

The Transport of the Sick and the Dead

Arrangements have been made for instantly securing the assistance of the fire brigade for the transport of the sick and the dead in case of any severe epidemic in Berlin.

A New Professor of Anatomy at Würzburg

Professor von Lenhossek of Bale has been called to the University of Würzburg to succeed Professor Armin Fick, who is going to Leipzig.

Dr. Felix Hirschfeld

Dr. Felix Hirschfeld, assistant in the medical department of the hospital at Moabit, has established himself as a private lecturer on internal medicine in the university here. He has already gained himself a name in medical science by his researches on assimilation and nutrition, published in Pflüger's Archiv. Virchow's Archiv. Dr. Felix Hirschfeld

Archiv (Clinical Weekly) and Das Centralblatt für Medizin (Central Medical Journal)

Professor Bernhard Fränkel

Professor Bernhard Fränkel has been elected an honorary member by the Italian Society for Laryngology.

Cholera in Hamburg

Eleven cases of cholera appeared in Hamburg last week. January 15th.

PARIS

(FROM OUR OWN CORRESPONDENT.)

A New Hypnotic

IF in these high pressure days insomnia has become, with its congener, neurasthenia, a *maladie à la mode*, therapists and chemists cannot be accused of lack of enthusiasm in the search for fresh remedies for that distressing condition. The latest addition to the list of hypnotics has been christened by its discoverers, M. Hanno and Ch. Richet, "chloralose." These physiologists, in the course of their search for chloral compounds that in decomposing in the system give up their chloral gradually, found that contrary to their expectations lactic chloralide possessed no hypnotic properties its toxicity however being very marked, the untoward symptoms consisting of epileptiform attacks, together with abundant bronchial secretion and consequent asphyxia. A combination of chloral with glucose-anhydrous chloral, otherwise chloralose—yielded excellent results. It is prepared as follows: Equal parts of anhydrous chloral and dry glucose are mixed together and heated to 100° C. for an hour. The thick mass left on cooling is treated with a little water and then with boiling ether. Water is added to the part soluble in the ether and the mixture distilled five or six times with water until no trace of chloral is discernible. Repeated crystallisations of the residue give a compound α (only slightly soluble in cold water, but fairly soluble in hot water and in alcohol) and a compound β (soluble with difficulty even in hot water). The yield of the α -compound is about 3 per cent. It crystallises in fine needles, melting at 164° to 165° C., its formula being $C_{12}H_{22}Cl_2O_6$. Treated with caustic potash it yields no glucose. The β -compound or parachlorose crystallises in pearly plates, melting at 229° C. This latter substance was found to be inactive. Chloralose, on the contrary, possesses the apparently contradictory properties of acting as a hypnotic and of augmenting at the same time the excitability of the spinal cord. As much as 60 centigrammes per kilo of body weight of it can be given to dogs without involving a fatal result, but anaesthesia is marked. It begins to manifest its hypnotic effects at 2 centigrammes per kilogramme, being in this respect much superior to chloral, which is inactive at that dose. This proves that chloralose does not act in virtue of the chloral set free after ingestion, since 2 centigrammes of chloralose cannot yield more than 1 centigramme of chloral. The discoverers then tried its effects on themselves beginning with doses of 5 centigrammes and pushing on to 75 centigrammes. No toxic effects were produced, but hypnotic results were observed with doses of 30 centigrammes and over. Drs. Landouzy and Montard Martin have for the space of five months used it clinically in cases of obstinate insomnia. They report that it can be administered in doses not exceeding 60 centigrammes, without producing any digestive trouble, headache, or other inconvenience on waking. It is best given in doses of from 20 centigrammes (minimum dose) to 75 centigrammes. Its solution being very bitter, it is probably best administered in cachets.

Académie de Médecine

The average Briton is apt to understate the distinction conferred by the red ribbon or rosette of the *Légion d'Honneur* and yet very few Frenchmen of any standing can be said to be perfectly happy before they can sport the said ribbon in their button holes. When I state that in no country is our own profession awarded its just quota of honours I shall find few bold enough to contradict me. In France a considerable number of practitioners take part in public life as senators, deputies, mayors and municipal councillors or mayors and quite a large proportion of them belong to the premier order of the *Légion d'Honneur*. The Académie de Médecine, as might have been expected, is well represented in the rank and file of the Legionaries. It counts one Grand Cross (M. Pasteur), three Grand Officers

(M. Berthelot, the renowned chemist, Baron Larrey and Dr Rochard, the sanitarian), sixteen Commanders, comprising amongst others Charcot, Brouardel, Sappey, Proust, Tarnier, Péan and Verneuil, forty four Officers, thirty-eight Chevaliers. Only four members of the Academy are undecorated, MM Bouchardat, Laborde, Lagneau and Prunier. Baron Larrey (son of Napoleon the First's great surgeon), who was the President in 1863, has lived to see twenty one of his successors in the chair disappear from this world. They are in order of succession: Grisolle, Malgaigne (whose widow died this week), Bouchardat, Tardieu, Ricord, Blache, Danonvilliers, Wurtz, Barth, Depaul, Devergie, Gosselin, Bouley, Baillarger, Richet, Roger, Legouest, Gavarrat, Trélat, Perrin and Moutard Martin. The surviving Presidents are Baron Larrey, MM Chatin (1876), Hardy (1883), Guérin (1884), Bergeron (1885), Sappey (1887), Hérard (1888), Tarnier (1891), Régnaud (1892) and Laboulbène, who holds office this year. The fathers of the Academy are Baron Larrey, elected in 1850, and M Chatin, sen (1853).

The Abuse of an Exclusive Milk Diet in Bright's Disease

In a thoughtful paper published in the current number of the *Médecine Moderne* MM. Lecorché and Talamon call attention to the dangers attending the limitation of subjects of Bright's disease to a long continued milk diet. Such a warning is, I am sure, not superfluous, for the routine condemnation of such patients to this monotonous regimen for long periods of time is much too common an occurrence. The idea is widely spread and implicitly believed in that so long as a patient has albumen in his urine so long should he be kept alive exclusively on milk. The above mentioned physicians point out the danger of inducing what they denominate *anémie lactée*, and they cite several cases in which a resumption of ordinary diet has brought about a marked improvement in the general health of such victims without necessarily causing the diminution or disappearance of the albumen. They reserve the exclusive milk diet for cases of acute nephritis, from whatever cause arising, and for the accidents apt to occur during the course of chronic Bright's disease (*poussées aiguës brightiques*), such as hæmaturia, uræmia &c. Even here an average of from a week to a fortnight's milk diet gives all the good one can reasonably expect, a gradual return to a normal mixed diet should then be begun. During the intervals between these acute attacks they condemn the exclusive use of milk. It certainly appears that persons suffering from Bright's disease can live for years while passing albumen. I cannot but think that the nitrogenous food should be permanently restricted. I am in the habit of recommending the liberal use of rice cooked in different ways, believing it to be highly nutritious without exacting any undue work from the damaged kidneys.

January, 1893

Obituary.

ALFRED BAKER, F.R.C.S. ENG., J.P.

AFTER having attained to the full span of life the subject of this notice passed away on the 13th inst., to the deep regret of his numerous friends and former patients. Mr Baker was born on Jan. 23rd, 1815, and until recently showed but comparatively few marks of advancing age. Indeed his health was generally so good that, save for some epigastric trouble, he was contemplating removal from Birmingham to the more genial climate of Torquay. The above mentioned trouble, however, continued to increase and a consultation between Sir Andrew Clark and Dr Wade resulted in the diagnosis of malignant disease. Alfred Baker was one of seven sons, several of whom attained some distinction, either local or general. One of them became mayor of Manchester and received the honour of knighthood, another was a well known Unitarian minister, and a third became celebrated as a teacher of the deaf and dumb. His sister was the mother of the present Archbishop of Canterbury. Alfred Baker was educated at King Edward's School, Birmingham, where his talents seemed to give promise of an artistic career. During his educational career he was early thrown into the company of Henshaw, Creswick, A.R.A., Thomas Baker and others who afterwards distinguished themselves in art. His family, however, preferred that he should follow the medical profession and in 1832 he was apprenticed

to Mr J. J. Ledsam, who was senior surgeon to the Eye Infirmary. He was also entered as a pupil of the Old School of Medicine in Snow Hill, which was the precursor of Queen's College. There he obtained silver medals in the classes of anatomy, surgery, materia medica and therapeutics, a rare feat of subjects which foreshadowed the comprehensive ability which made him one of the most accomplished practitioners whom Birmingham has ever known. Mr Baker's facility in the use of the pencil and brush led to his early introduction by Joseph Hodgson into the wards of the General Hospital for the purpose of making for him pathological drawings and sketches of diseased parts and deformities. In pursuit of a frequent fellow worker was his friend Sir Will. Bowman, who was apprenticed to the hospital and was also, as was Mr Hodgson himself, an artist of no mean skill. Mr Baker subsequently acted as one of Mr Hodgson's dressers. Mr Hodgson's removal from Birmingham to London where he became president of the Royal College of Surgeons made no alteration in the friendship which existed between Mr Baker and himself. In 1836, having completed his curriculum of study in Birmingham, Mr Baker entered as a pupil at St. Bartholomew's Hospital and attended the practical lectures of the hospital, the brilliant lectures on surgery by Sir Will. (then Mr.) Lawrence, and the anatomical demonstrations by King's College by Professor Partridge. In 1837 he obtained his diploma of M.R.C.S. and at once returned to Birmingham. Declining an offer of partnership with his old master Mr Ledsam, he went to Coventry and for twelve months associated with Mr John Bury, whose public appointments and private practice made him the leading surgeon in the town. A vacancy in the post of house surgeon to the Birmingham General Hospital having become vacant, he sent in testimonials to the managing committee and succeeded in securing the appointment. In the discharge of the duties of this post he was enabled to effect considerable improvement principally in regard to the pathological examinations and the statistical records of the hospital. In 1843 Mr Baker resigned the stipendiary office of house-surgeon, and on the resignation of Mr B. Vaux was successful in obtaining honorary surgeonry to the institution. Here his administrative faculties, not less than his operative skill, were put to full play. In 1846 Mr Baker met with a serious accident. In the course of his professional work he was thrown from his gig and sustained a fracture of the femur as well as of one of the bones of the forearm. This accident confined him to the house for four months. His recovery was very slow and the accident left its mark in a slight lameness of the knee on the same side. In 1850 he married the eldest daughter of Mr George Armitage, a well known manufacturing chemist. In the same year he was associated with Dr Bell Fletcher, Dr F. Elkington, Mr George Elkington, Dr Russell, Dr J. B. Hayes and others in the foundation of a new medical school, which was known as Sydenham College. There had for some time past been a considerable amount of misunderstanding between the authorities of the General Hospital and Queen's College, and the object of the new school was to provide more efficient teaching, to combine in a greater degree theoretical training with practical demonstration under the same teachers, and thus to increase the value of the hospital practice. After seventeen years of active and successful work Sydenham College was amalgamated with Queen's College. During the whole of its existence Mr Baker held the office of lecturer upon the principles and practice of surgery. In the double capacity of honorary surgeon to the General Hospital and lecturer on surgery to Sydenham College it was Mr Baker's duty to acquaint himself with and to utilise such advances in surgical practice as were from time to time brought forward, and in fulfilling this object he was compelled to undergo the only recorded unpleasant experience of his public professional life. He had performed a dangerous surgical operation, which, though never carried out before in the General Hospital, had been previously performed with success elsewhere. The patient's death resulted in a charge of malpractice being brought against him—a charge which, however, was eventually disproved to the full satisfaction of the governors of the hospital. This notice would not be complete without a reference to his work in connexion with the various professional appointments he held. But his warmest interest was centred in the Birmingham General Hospital, in the management of which he took a valuable part. It was due to his suggestion in the first instance that the Infirmary Suburban Hospital was subsequently

established. Of indisputable skill as a surgeon dexterous manipulation, of sound judgment and careful in arriving at conclusions, Mr Baker's advice was sought with confidence. On his resignation of the honorary surgeonship of the hospital, a post he had held for thirty-three years a testimonial was presented to him by the committee consisting of his portrait, painted by Mr Frank Holl, R.A. and valuable service of silver plate. Nor were the warm congratulations of the students wanting on the occasion of his appointment as consulting surgeon to the hospital, when an illuminated address was presented to him on their behalf expressive of their admiration of his professional skill both as teacher and operator. On Mr Baker's personal qualities it is not necessary to dilate. The occupancy of high and honoured positions for many years forms sufficient testimony to his personal worth as well as to the integrity with which he discharged his responsible duties as a citizen and as a member of the profession which he adorned. He leaves a widow, four daughters and three sons, one of whom at present is Dean of Christ Church, Oxford.

WILLIAM LIDDON M.B. LOND. F.R.C.S. ENG.

We regret to record the death last week of Mr William Liddon of Taunton at the age of fifty-seven. Mr Liddon, after being educated in King's College School, entered the medical department of the College in October, 1853, and was one of its most distinguished students. He held the offices of assistant demonstrator of anatomy, physician accoucheur's assistant, and house surgeon; he became a Member of the Royal College of Surgeons in 1856, M.B. Lond. in 1858 and F.R.C.S. by examination in 1861, he obtained honours in anatomy and physiology at his first M.D. examination and in surgery at the final examination. He settled in practice at Taunton—the home of the Liddon family—was appointed surgeon to the Taunton and Somerset Hospital, and soon acquired a large reputation for his knowledge of surgery and his extensive experience, which were aided by a most courteous and kindly manner. In 1883 he was elected an hon. Fellow of King's College and always took a deep interest in King's College and King's College Hospital. He was a cousin of Dr Edward Liddon of Taunton and of Canon Liddon.

JAMES JOSEPH BUIST, M.D. ABERD., I.R.C.S. EDIN.

DR. BUIST, who died at his residence at Cardiff on Jan. 12th, was born in Banffshire in 1826 and had been a practitioner at Cardiff for the past thirty years. The deceased gentleman had for some time been suffering from heart disease, but the immediate cause of death was the rupture of a bloodvessel. He was a descendant of a very old Scottish Roman Catholic family and took his degree of M.D. at Aberdeen University in 1850 taking his L.R.C.S. at Edinburgh in the same year. In 1862 he was appointed house surgeon to the Glamorganshire and Monmouthshire Infirmary, which position he held for three years. He also held the position of honorary surgeon to the hospital ship *Hamadryad*. Dr Buist took a very great interest in the welfare of the poor and his death will be deeply deplored by many charitable institutions, to which he always was ready to lend a helping hand.

JOHN MCCAMBRIDGE, M.D. R.U.I. M.Ch.

DR. JOHN MCCAMBRIDGE of Widnes, Lancashire, died on Saturday Jan. 10th. He was a native of Randalstown, Antrim, Ireland, and took his degree of M.D. as well as that of M.Ch., at the Royal University in 1882. For the past ten years the deceased has practised in Widnes, and his death has caused much regret in that town. His remains have been removed to his native town in Ireland.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.—An interesting conference of medical officers of health was held last week at Derby at which Dr Alfred Hill presided. The chief business was the inauguration in Derby of a new branch of the parent society. Dr Hill spoke of the success which had attended the co-operation of medical officers of health and stated that when he joined the Society seventeen years ago there were not more than 100 members connected with it, whereas the number now amounted to more than 600.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen have passed the Second Examination of the Board in Anatomy and Physiology at a meeting of the Examiners on the 12th inst. —

Arthur C. Friend of St. Thomas's Hospital, Arthur T. White and Arthur G. Littlehales of Westminster Hospital, Robert H. Mornement of Middlesex Hospital, Charles R. Matland of St. Bartholomew's Hospital, and Mr Cooke's School of Anatomy and Physiology, Bertie B. Ham, of the University of Melbourne, and Edward H. J. Danaher of London Hospital.
Anatomy only. Cornelius B. Garman and Edgar T. Lanyon of London Hospital, Percy A. Chilloct, of London Hospital, and Mr Cooke's School of Anatomy and Physiology, Sydney J. Haylock, of St. Mary's Hospital, Olaf F. Pritchard, of King's College, Stewart E. Douglas and Daniel L. E. Bolton of St. Bartholomew's Hospital, Charles F. Washill of University College, Samuel R. Hallam, of St. Thomas's Hospital, and Eugene Moore of Guy's Hospital.

Physiology only.—Richard Armitage of St. Bartholomew's Hospital, Harry F. Hyde, of Cambridge University and St. Bartholomew's Hospital, Ernest T. Clayton of Charing-cross Hospital, Arthur Scott-Turner, Berthon F. Pendred, Morton K. Crosslader, Leonard G. Reynolds, Archibald A. Price, and William G. Mitchell, of Guy's Hospital, Frank R. Proctor-Sims, of Guy's Hospital, and Mr Cooke's School of Anatomy and Physiology, Charles E. Walker and Robert C. Martin, of St. George's Hospital, Mohamed Abdul Ghani of Lahore Medical College and University College, Alfred J. Grant of St. Thomas's Hospital, John N. Macdonald, of St. Mary's Hospital, and Henry P. Cox, of King's College. Five candidates were referred in both subjects, five in Anatomy only and five in Physiology only.

UNIVERSITY OF CAMBRIDGE.—Mr Louis Cobbett, M.A. M.B. of Trinity College, has been appointed Demonstrator in Pathology in place of Dr Lloyd Jones, resigned.

MEDICAL MAGISTRATE.—Mr Robert McNICOLL, M.R.C.S., of St. Helens, Lancashire, has been placed on the Commission of the Peace for that borough.

FOOTBALL CASUALTY.—On Saturday last, during a match at Barnsley between the Barnsley St. Peter's and Mexborough teams, the captain of the latter team fractured his clavicle.

SANITARY AND BURIAL REFORM.—Dr B. W. Richardson presided recently at the monthly meeting of the Church of England Sanitary Association at the Church House. Mr Fred Scott, Secretary of the Manchester Sanitary Association, read a paper upon the Church, the Great National Sanitary Agency, Dr G. V. Poore, honorary secretary of the International Congress of Hygiene, read a paper upon 'Earth-to-earth Burial,' in which he maintained that burial in the earth could be rendered harmless to the living. A discussion followed, in which Sir Spencer Wells, Bart., Mr Morton, M.P., Canon Wilberforce and others took part. At the Funeral Reform meeting which followed resolutions were carried deprecating undue exposure of mourners at the grave and urging upon cemetery authorities the duty of keeping the cemetery chapels properly heated. Next day the Home Secretary received a deputation from the Church of England Sanitary Association and the Church of England Burial Reform Association, which was instructed to ask for *inter alia* the appointment of a Minister of Health, an exhaustive inquiry into the effect of earth to earth burial upon the subsoil, water, &c. and the more careful certification of the fact and cause of death in every case. The deputation which was introduced by the Duke of Westminster included the Bishop of Bedford, Sir Spencer Wells, Bart., Sir Henry Thompson, Sir Henry Roscoe, Sir G. Hunter, M.P., General Lowry, the Archbishop of London, Canon Scott Holland, Rev. J. W. Hocking, Rev. R. B. Ransford, Rev. T. B. Paynter, Dr G. V. Poore, Dr Norman Kerr, Dr Septimus Gibbon, Dr W. Squire, Mr Seymour Haden, Mr Braxton Hicks, Mr Smith Wright, M.P., Mr G. R. Benson, M.P., Mr Morton, M.P., Mr Earle and others. Mr Asquith, in reply, promised to communicate the views of the deputation respecting a Minister of Health to the Government, but could not encourage any hope of this part of the memorials receiving a favourable response. He said that the demand for an inquiry into the modes of the disposal of the dead had been clearly made out and he would consult with his colleague the President of the Local Government Board with a view to securing the more careful registration of the fact and cause of death in every case.

PENALTY FOR CONCEALING MEASLES—A case was brought before the Leith magistrates last week in which a lodging house keeper was charged with neglecting to give notice to the medical officer of health for the burgh of the existence of a case of measles in his house. It was proved that the defendant had been previously convicted of a similar offence, and the magistrates imposed a penalty of £2 and ordered that for three years the accused should be deprived of the liberty to keep or to aid in the care of a lodging house.

MUNIFICENT GIFTS TO HOSPITAL CHARITIES—Baron Hirsch, who recently gave £700 each to the North Eastern Hospital for Children and to the Royal Hospital for Children and Women, Waterloo-bridge-road, has forwarded to the Hospital for Sick Children, Great Ormond street, the sum of £1200 towards the payment of the debt incurred by the building of the just completed new wing. To King's College Hospital, to the Royal Free Hospital, Gryn's inn road, and to the Great Northern Hospital, Holloway road, he has given £700 each, to the Paddington Green Children's Hospital £300, and £200 have been received from him by the Royal Sea bathing Infirmary for Scrofula. The Southampton Dispensary has received from Mr Andrew Barlow the gift of £1000. The same gentleman recently gave a similar sum to the Royal South Hants Infirmary. The Dunoon Convalescent Homes have been presented by Mrs Galbraith of Glasgow with the sum of £500 for the endowment of a bed in memory of her late husband. This will enable seventeen persons annually to stay three weeks each in the home.

Appointments.

Successful applicants for Vacancies Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number

- ANGUS, HENRY BRUNTON M.B. B.S. Durh. M.R.C.S. L.R.C.P. Lond. has been appointed House Surgeon at Southport Infirmary.
- BENNETT C. J., M.R.C.S., has been appointed Consulting Surgeon to the Cheltenham General Hospital.
- BURTON FANNING F. W., M.B. Camb. M.R.C.P. Lond. M.R.C.S., has been appointed Pathologist and Curator of the Museum the Norfolk and Norwich Hospital.
- CALCOTT G. W. B. M.R.C.S., has been appointed Medical Officer for the Oundle Urban Sanitary District of the Oundle Union, vice L. B. Calcott, resigned.
- CUNDELL, G. R. M.R.C.S., L.S.A. Lond. has been appointed a Medical Officer for Out-patients Richmond Hospital, vice J. A. Nowell, resigned.
- DAY D. D., M.B. Lond., B.S. F.R.C.S. has been appointed Pathologist and Curator of the Museum, the Norfolk and Norwich Hospital.
- DENNIS F. R., L.R.C.P., L.R.C.S. Edin. has been appointed Medical Officer for the Trant Sanitary District of the Ticehurst Union.
- ELSWORTH, R. O. M.B., C.M. Edin., M.R.C.S. has been appointed Pathologist and Chloroformist at the Swansea Hospital vice Lancaster, resigned.
- HORROCKS, HERBERT, M.D. Lond. B.Sc. M.R.C.S., L.R.C.P. has been appointed Junior House Surgeon at the North Eastern Hospital for Children.
- JONES EVAN M.R.C.S. L.R.C.P. Lond. has been appointed Deputy District Medical Officer of the Holborn Union.
- KILNER, C. S., M.B. C.M. Edin., D.P.H. Camb., has been appointed Senior Medical Officer of the Suffolk General Hospital.
- MACLURE, H. W., M.B., B.C. L.R.C.P. Lond. M.R.C.S., has been appointed Medical Officer for the South Sanitary District of the Parish of Paddington.
- MAIR, L. W. DARRA M.D. Lond. D.P.H., has been appointed Acting Medical Superintendent at Grove Hall Asylum Bow.
- NORRIS, ATHELSTANE, M.B., C.M. Edin. has been appointed Assistant Medical Officer to the Northumberland County Asylum Morpeth vice J. C. Mackenzie, resigned.
- POLLARD FREDK. M.D. Lond., has been appointed Medical Officer to the Westminster Union Schools, Upper Tooting, vice O. Vordant Matthews, resigned.
- ROBERTS, C. H., L.R.C.P. Lond. M.R.C.S., has been appointed Honorary Visiting Medical Officer to the Hostel of St. Luke.
- THOMAS, JABEZ, F.R.C.S. Eng. L.R.C.P. F.R.C.S. Edin., has been appointed Honorary Consulting Surgeon to the Swansea Hospital.
- THOMPSON, M., L.R.C.P., L.M. Edin. M.R.C.S. has been appointed Medical Officer for the Boxmoor Sanitary District of the Hemel Hempstead Union.
- WARRING H. J., M.B., B.S., B.Sc. Lond., F.R.C.S. Eng., has been appointed Assistant Surgeon to the Metropolitan Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

- ALDANY GENERAL HOSPITAL, Grahamstown South Africa.—Resident Medical Officer. Salary £250 per annum, with unfurnished rooms. (Apply to Dr C. W. Cathcart, Royal Infirmary, Edinburgh.)
- BOROUGH HOSPITAL, Birkenhead.—Junior House Surgeon. Salary £50 per annum, with board and lodging but no wine, spirits or beer.
- BURN DISPENSARY HOSPITAL, Bury, Lancashire.—Junior House Surgeon. Salary £60 per annum, with board residence and attendance.
- COSFORD UNION, Suffolk (Bildeston District).—Medical Officer and Public Vaccinator for the Bildeston District. Salary £75 per annum, exclusive of the usual extra medical fees for Midwifery cases and certain surgical operations vaccination fees and fees for visiting lunatics. (Apply to the Clerk to the Guardians Union Offices Hadleigh Suffolk.)
- COSFORD UNION Suffolk.—Medical Officer for the Cosford Union Work house situated at Semer, Suffolk. Salary £50 per annum (exclusive of the usual extra medical fees for midwifery cases and certain hospital operations). (Apply to the Clerk, Union Offices, Hadleigh, Suffolk.)
- DUNDEE ROYAL INFIRMARY.—Medical Superintendent.
- EAST LONDON HOSPITAL FOR CHILDREN, Glams road, Shadwell, E.—House Surgeon. Board and lodging provided.
- EAST SUFFOLK AND IPSWICH HOSPITAL, Ipswich.—Assistant House Surgeon, single. Salary £20 per annum, and board, lodgings and washing allowed.
- GENERAL HOSPITAL, Birmingham.—Two Assistant House Surgeons, for six months. Residence, board and washing provided.
- GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road N.—House Surgeon. Salary £60 per annum, with board and lodging in the hospital.
- GUY'S HOSPITAL, S.E.—Assistant Dental Surgeon.
- LIVERPOOL INFIRMARY FOR CHILDREN.—Assistant House Surgeon for six months. Board and lodging provided.
- Mr G. RAYNOR, 132, Cheapside London, E.C.—Medical Officer for the North West Coast of Africa. Salary £80 first year £100 second board and apartments provided. Passage paid out and home.
- NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (ALBERT MEMORIAL), Queen square Bloomsbury.—Assistant Physician.
- RIP DISPENSARY AND COTTAGE HOSPITAL.—House Surgeon and Dispenser (single). Salary £70 per annum, with board and lodging.
- ROCHDALE INFIRMARY AND DISPENSARY.—Resident Medical Officer (unmarried). Salary £80 per annum with board and washing.
- ROYAL PORTSMOUTH, PORTSEA AND GOSPORT HOSPITAL, Portsea.—Assistant House Surgeon for six months. Board, residence and washing and an honorarium of £15 15s at expiration of term of office.
- ROYAL SOUTH LONDON DISPENSARY, St. George's-cross, S.E.—Honorary Surgeon.
- ROYAL SOUTH HANTS INFIRMARY.—Assistant House Surgeon. Board and rooms provided.
- UNIVERSITY COLLEGE OF SOUTH WALES AND MONMOUTHSHIRE, Cardiff.—Professor of Anatomy. Stipend £350.
- UNIVERSITY COLLEGE OF SOUTH WALES AND MONMOUTHSHIRE, Cardiff.—Professor of Physiology. Stipend £350.
- VICTORIA HOSPITAL, Folkestone.—House Surgeon. Salary £90 the first year with an increase of £10 each year for the two following years, together with board and residence.
- WELLINGTON UNION, Somerset and Devon.—Medical Officer for District No. 3 of the Union. Salary £62 10s 9d per annum inclusive of all extra medical fees except for Midwifery and Vaccination cases. (Apply to the Clerk, Wellington, Somerset.)
- WEST HERTS INFIRMARY, Hemel Hempstead.—House Surgeon and Dispenser who shall also be Assistant Secretary, for two years. Salary £100 per annum, with board, furnished rooms, free light, attendance and washing.

Births, Marriages and Deaths.

BIRTHS

- BERNAU.—On Jan. 16th, at Park House, East Finchley N., the wife of Henry F. Bernau M.R.C.S. Eng., L.R.C.P. Lond., of a daughter.
- SCOTT.—On Jan. 11th at Musselburgh N.B. the wife of Thomas R. Scott M.D. of a son.
- VACHELL.—On Jan. 5th at Charles street, Cardiff the wife of Charles Tanfield Vachell M.D. of a son.

MARRIAGES

- FINCH-BARRY.—On Jan. 5th at St. Mary Church, Devon Thomas Finch M.D. F.R.S., to Rosa, widow of John Milner Barry, M.D., F.R.C.P. of Tunbridge Wells.
- FARQUHARSON.—CASTLE.—On Dec. 3rd, 1932, at Mount Hermon Church St. Elizabeth Jamaica. William George Robertson Farquharson, M.R.C.S., L.R.C.P. fourth son of the Hon. J. M. Farquharson, Member of the Legislative Council of Jamaica of Longhill to Florence Annie Sherer elder daughter of Capt. Charles T. Castle formerly of the 17th Regiment, subsequently D.S.P. North West Province India.

LEY-NICHOLSON—On Jan. 12th at St. Saviour's Church, Warwick road, W., by the Rev Marshall Tweddell, M.A. Vicar of the parish, assisted by the Rev A. A. Harland, M.A., Vicar of Harefield, Middlesex, uncle, and the Rev A. A. Haller brother of the bridegroom, William Haller L.R.C.P. Lond. M.R.C.S. Eng., of Fulham, third son of the late Alexander Haller M.D. of Harley street, to Constance Augusta, eldest daughter of C. Lindsay Nicholson, of Warrington-crescent W.

GOOY-DINHAM—On Wednesday, Jan. 11th, 1893 at St. Mary Magdalene's Munster square N.W. by the Rev R. H. Kingdon Rector of Whitstone Holsworthy Devon assisted by the Revs. G. D. F. H. and R. A. Kingdon, Edward Owen Kingdon, M.R.C.S. L.R.C.P., of Holsworthy, Devon, to Florence only child of George Dinham, M.D. of Hobart, Tasmania.

LEES-BARLOW-MEARS—On Jan. 17th at St. Saviour's Hanley road, Walter Sydney Lazarus Barlow, M.B. M.R.C.P., to Minnie elder daughter of G. Mears, Esq. of St. Bartholomew road.

ED-HOWARD—On Jan. 12th, at St. George's, Hanover square Reginald Tweed, M.D. of 55, Upper Brook street, Grosvenor square, to Geraldine Fraser Irvine, daughter of the late Edward Irvine Howard, Esq.

OSLOW-NAPIER—On Jan. 11th, at St. James's, Paddington, Walter Winslow, M.A. M.B. of Watlington Oxon to Constance Lilian, younger daughter of the late Richard C. Napier of Preston, Lancashire.

DEATHS

MS.—On the 3rd inst. at Punta Gorda, British Honduras, Dr Campbell Rutherford Adams, Colonial Surgeon and Magistrate eldest son of Dr Adams, Croydon, aged 26. (By telegram.)

ER—On Jan. 12th at The Bracken Edgbaston, Birmingham, Alfred Baker F.R.C.S. J.P., in his 78th year.

ESQ—On Jan. 15th, a Carnoustie Robert Dickson, L.R.C.S., L.M. Edin.

ROVER—On the 16th inst., at 9 The College Glasgow Hugh Monagomerie Gairdner in his 15th year third son of Professor W. T. Gairdner M.D.

CLATER—On Jan. 16th, at Prospect House, Grindleton, near Clitheroe Thomas Lancaster M.R.C.S., L.S.A. Eng. & L.M. in his 66th year.

IRIS—On Jan. 15th, at Elkin avenue, Malda vale and Moylough, County Sligo, Robert Featherstone Phibbs, M.R.C.P. Edin., M.R.C.S., aged 44.

ONAS—On Jan. 17th at Dunham, suddenly Fredk. John Thomas, M.R.C.S. of Swaffham.

LIAMS—On Jan. 15th, at Holt street House Wrexham, Edward Williams, M.D. aged 51.

R.B.—A fee of £1. is charged for the Insertion of Notices of Births, Marriages and Deaths.

BOOKS ETC RECEIVED

- ILLIERS, J. B., ET FILS Paris.
Clinique Chirurgicale. Par A. Richet. 1893. pp. 660.
- STLEY RICHARD & SON London.
Twenty Years in Parliament. By W. McCullagh Torrens. 1893. pp. 546.
- ALISTON SON & CO Walnut-street, Philadelphia.
The Hygiene of the Sick room. A Book for Nurses and others. By W. B. Canfield A.M. M.D. 1892. pp. 247.
Handbook of Massage. By Emil Klein, M.D. Ph.D. Authorised Translation from the Swedish, by E. M. Hartwell, M.D. Ph.D. 1892. pp. 316.
- HECKMAN E. Austin, Texas.
Fermentation, Infection and Immunity. A New Theory of these Processes. By J. W. McLaughlin, M.D. 1892. pp. 249.
- ESTELL & CO. London.
Elementary Physiology for Students. By A. T. Schofield, M.D. M.R.C.S. Illustrated. 1892. pp. 372.
- STURCHILL, J. & A. New Burlington street, London.
Syphilis and the Nervous System. A revised Reprint. By W. B. Gowers M.D., F.R.C.P. F.R.S. 1892. pp. 131.
- ROSBY LOCKWOOD & SON London.
The Health Officer's Pocket book. By Edwd. F. Willoughby M.D. Lond. 1893. pp. 56.
- EVIN & CO. Dublin and BAILLIERE, TINDALL & COX, London.
Transactions of the Royal Academy of Medicine in Ireland. Edited by W. Thomson, M.A. F.R.C.S. Vol. X. 1892. pp. 463.
- OVERHUNT PRINTING OFFICE, Washington.
Index-Catalogue of the Library of the Surgeon-General's Office United States Army Authors and Subjects. Vol. XIII. Sialogogues-Suturing. 1892. pp. 1005.
- RITPIN CHAS. & CO., Exeter street, Strand, London.
Clinical Diagnosis the Bacteriological Chemical and Microscopical Evidence of Disease. By Dr Rudolf v. Jaksch. Translated from the Third German Edition by James Cagney M.A., M.D. Illustrated. 1893. pp. 460.

KARGER, S. Berlin.

- Compendium der Allgemeinen Chirurgie Von Dr. Ruyter und Dr. Kirchoff. 1892. pp. 268.
Geburtshilfliches Vademecum. Von Dr. A. Dührssen. 1892. pp. 185.
Compendium der Specieellen Chirurgie. Von Dr. Ruyter und Dr. E. Kirchoff. 1893. pp. 321.
Klinisches Receptaschenbuch. Von Dr. F. Ackeren. 1891. pp. 167.
Compendium der Physiologie des Menschen. Von Dr. R. Oestreich. 1891. pp. 692.
Compendium der Augenheilkunde Von Dr. P. Silex. 1891. pp. 193.
Arzneiverordnungen in der Kinderpraxis. Von H. Guttman. 1891. pp. 97.
Compendium der Pathologischen Anatomie. Von R. Langerhaus. 1891. pp. 473.
Das Medicinische Berlin. Mit Straubes Plan von Berlin. 1892. pp. 183.

NISBET JAS. & CO. Berners-street London.

- From our Dead Selves to Higher Things By F. J. Gant, F.R.C.S. 1893. pp. 177. Price 3s. 6d.

PERCIVAL & Co., King street, Covent-garden London, W.C.

- Popular Lessons on Cookery By Mrs. Boyd Carpenter Eleventh Thousand. 1893. pp. 24. Price 1s. 6d.

RAITHBY LAWRENCE & CO. Imperial Buildings, Ludgate-circus, London, E.C.

- Home Cookery Compiled under the direction of the North Midland School of Cookery 1892. pp. 19. Price 1s.

SATCHELSON B. B. Walnut street Philadelphia.

- Notes on the Newer Remedies, their Therapeutic Applications and Modes of Administration. By D. Cerna, M.D. Ph.D. 1893. pp. 177.

STURPIN, MARSHALL, HAMILTON & CO. London and E. HOWELL, Liverpool.

- Health Gospels for Women. By G. A. Hawkins Ambler F.R.C.S.E., 1893. pp. 180.

SOCIETY FOR PROMOTING CHRISTIAN KNOWLEDGE, Northumberland-avenue London, W.C.

- Our Secret Friends and Foes. By P. F. Frankland, Ph.D., B.Sc. Lond. F.R.S. 1893. pp. 16. Price 2s. 6d.

THE LITERARY REVISION AND TRANSLATION OFFICE, Strand London, W.C.

- The Queens English (?) Up to Date By Anglophile. pp. 192. Price 2s.

THE RECORD PRESS, Strand London, W.C.

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VOGEL, E. D. Easton Pa.

- The Modern Antipyretics their Action in Health and Disease. By Isaac Ott M.D. Second Edition. 1892. pp. 124.

The Journal of Mental Science January 1893 (J. & A. Churchill London) price 3s. 6d.—Report of a Case of large Intra-cranial Tumour (weight five ounces) compressing the Left Frontal Lobe by Wm. H. Morrison, M.D. Holmesburg Pa. (Reprint from the Medical News Oct. 20th, 1892).—The Sanitary Record Diary for 1893.—The more Severe Forms of Lateral Curvature of the Spine by Noble Smith, F.R.C.S. Ed., L.R.C.P. Lond. with figures (Smith Elder & Co. London).—Analytische Methoden zur Nahrungsmittel Untersuchung nebst einem Anhang enthaltend die Untersuchung einiger landwirtschaftlicher und technischer Producte und Fabrikate sowie die Hamanalyse von Dr. C. Virchow 1891 (S. Karger, Berlin).—Radolf Virchow eine Biographische Studie, von W. Becher (S. Karger Berlin), 1891.—Leitfaden der Hygiene von Dr. A. Gärtner (S. Karger Berlin), 1892.—Die Verbreitung der Syphilis in Berlin von Dr. A. Blaschko (S. Karger Berlin) 1892.—Zur Staatlichen Beaufsichtigung der Irrenanstalten von Dr. A. Asch r (S. Karger Berlin), 1893.—Sammlung Gerichtsarztlicher Gutachten von Dr. R. Becker (S. Karger Berlin).—Archiv für Experimentelle Pathologie und Pharmakologie Band 31 Heft 1 (F. C. W. Vogel, Leipzig, 1892).—The Battle of the Nurses a full verbatim Report on the application of the Royal British Nurses' Association for a Charter of Incorporation (Scientific Press, Strand, London) price 1s.—Proceedings of the Philosophical Society of Glasgow 1891-92, Vol. XXIII (J. Smith & Son, Glasgow) 1892.—Index to the Proceedings of the Philosophical Society of Glasgow Vols. I to XX. 1841-89 (R. Maclehose, Glasgow 1892).—Annual Report of the Commissioner of Patents for the year 1891 (Government Printing Office Washington, 1892).—Montreux by Stuart Tidey M.D. Lond., M.R.C.P. M.R.C.S.; reprint (J. Heywood Manchester and London E.C.) 1892.—The Nursing and Management of the Insane by T. D. Greenlees, M.B. Edin. (printed at the Asylum Press, Grahamstown Asylum, Cape Colony).—Vivisection by Edward Carpenter and Edward Maitland (Wm. Reeves Fleet street, London E.C. 1893).—Haut Anomalien bei inneren Krankheiten von Dr. S. Jessner (A. Hirschwald Berlin, 1893).—Les Trois Livres de Jérôme Fracastor sur la Contagion, les Maladies Contagieuses et leur Traitement Traduction et Notes par Dr. Leon Meunier (Société d'Éditions Scientifiques, Paris 1893).—Revue des Sciences Médicales en France et à l'Étranger No. 81, Janvier 1893 (G. Masson, Paris).—Kelly's London Medical Directory. 1893 (Kelly & Co., Great Queen street, London, W.C.) price 6s. 6d.—Archives des Sciences Biologiques publiées par l'Institut Impérial de Médecine Expérimentale à St. Petersburg Tome I No. 4, 1892.—Magazine The Strand January 1893.

Medical Diary for the ensuing Week.

Monday, January 23

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M., Fridays and Saturdays, at the same hour
 ST BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M. and on Tuesday, Wednesday, Friday, and Saturday at the same hour
 ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, daily at 10 A.M.
 ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour
 CHELSEA HOSPITAL FOR WOMEN.—Operations 2 P.M., Thursday, 2 P.M.
 HOSPITAL FOR WOMEN, SOHO SQUARE.—Operations, 2 P.M., and on Thursday at the same hour
 METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
 ROYAL ORTHOPÆDIC HOSPITAL.—Operations 2 P.M.
 CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour
 UNIVERSITY COLLEGE HOSPITAL.—Ear and Throat Department, 9 A.M., Thursday, 9 A.M. Eye Department, 2 P.M.
 LONDON POST-GRADUATE COURSE.—Royal London Ophthalmic Hospital 1 P.M., Mr W Lang Lacrymal Affections.—101, Gt Russell st. 8 P.M., Dr Galloway Morbid Conditions of the Heart.—Parkes Museum (Margaret-st. W.) 3.30 P.M. Dr Parkes Disposal of Refuse.
 MEDICAL SOCIETY OF LONDON.—8.30 P.M. Dr J S Bristowe Syphilitic Affections of the Nervous System (Second Lettsomian Lecture)

Tuesday, January 24

GUY'S HOSPITAL.—Operations 1.30 P.M. and on Friday at the same hour
 Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.
 ST THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M., Friday, 2 P.M.
 ST MARK'S HOSPITAL.—Operations 2 P.M.
 CANCER HOSPITAL, BROMPTON.—Operations 2 P.M., Saturday, 2 P.M.
 WESTMINSTER HOSPITAL.—Operations 2 P.M.
 WEST LONDON HOSPITAL.—Operations 2.30 P.M.
 UNIVERSITY COLLEGE HOSPITAL.—Skin Department, 1.45, Saturday, 9.15
 ST MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays 1.30 P.M. Electrotherapeutics, same day, 2 P.M.
 ROYAL INSTITUTION.—3 P.M. Prof V Horsley The Brain.
 LONDON POST-GRADUATE COURSE.—Hospital for Skin Diseases Blackfriars 4 P.M., Mr Jonathan Hutchinson On Psoriasis.—Bethlem Hospital 2 P.M. Dr H. Corner Hysterical Mania, Religious Mania. 101, Gt Russell street 8 P.M., Dr Amand Routh Ovarian Tumours.
 ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—Mr D Arcey Pwne Cases to illustrate the Relationship which exists between Wryneck and Congenital Hematoma of the Sterno Mastoid Muscle.—Mr Walter Rivington Some cases of Fracture of Long Bones from slight causes in connexion with Tabes Dorsalis Syphilis and Paraplegia

Wednesday, January 25

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
 MIDDLESEX HOSPITAL.—Operations, 1.30 P.M., Saturdays, 2 P.M. Obstetrical Operations Thursdays, 2 P.M.
 CHARING CROSS HOSPITAL.—Operations, 3 P.M., and on Thursday and Friday at the same hour
 ST THOMAS'S HOSPITAL.—Operations 1.30 P.M. Saturday same hour
 LONDON HOSPITAL.—Operations 2 P.M., Thursday and Saturday, same hour
 ST PETER'S HOSPITAL, COVENT-GARDEN.—Operations 2 P.M.
 UNIVERSITY COLLEGE HOSPITAL.—Operations 1.30 P.M. Dental Department, 9.30 A.M. Eye Department 2 P.M.
 ROYAL FREE HOSPITAL.—Operations 2 P.M. and on Saturday
 CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.
 LONDON POST-GRADUATE COURSE.—Hospital for Consumption Brompton 4 P.M., Dr J Mitchell Bruce Interesting cases of Phthisis in the Wards.—Royal London Ophthalmic Hospital 3 P.M., Mr A Stamford Morton Retinal Affections
 SOCIETY OF ARTS.—8 P.M. Mr Wyke Bayliss The Fine Arts in Relation to the Sanitary Condition of our Great Cities (Dr B W Richardson will preside)
 HUNTERIAN SOCIETY (London Institution).—8.30 P.M. Clinical Evening Dr A T Davies will exhibit a case of Tuberculosis of Palate, Larynx, and Lung and one of Hemilateral Diaphragms.—Dr Hingston Fox A case of Stenosis of Pulmonary Artery.—Dr W J Hadley (Introduced by Dr Arnold Chaplin) Two cases of Fibroid Disease of the lungs.—Mr F R Humphreys Notes of Two cases of Cheyne-Stokes Respiration with recovery.—Dr F C Turner Intestinal Obstruction

Thursday, January 26

ST GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday 1.30 P.M. Ophthalmic Operations, Friday 1.30 P.M.
 UNIVERSITY COLLEGE HOSPITAL.—Operations 2 P.M. Ear and Throat Department, 9 A.M. Eye Department, 2 P.M.
 LONDON POST-GRADUATE COURSE.—Hospital for Sick Children, Great Ormond-street 4 P.M. Mr J H Morgan Tracheotomy.—National Hospital for the Paralyzed and Epileptic 2 P.M. Dr Beevor Cerebral Localisation.—London Throat Hospital (St. Portland-st.) 8 P.M. Dr E Law Examination of the Throat and Nose.—Central London Sick Asylum 5.30 P.M. Mr John Hopkins Cases in the Wards
 CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn road).—5 P.M. Dr Dundas Grant Acute Inflammation of the Middle Ear
 OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.—8.30 P.M. Patients and Card Specimens at 8 P.M. Mr W M Beaumont Congenital Ectopia Pupille.—Dr J Stephenson A Set of Strocchini's Drop Bottles.—Mr Haxbridge Refinitis in Leucocytæmia.—Mr Priestley Smith (1) Toxic Amblyopia from Iodoform, (2) A Double Model Eye for Ophthalmoscopy and the Shadow Test, (3) Improved Model Illustrating Conjugal Movements.—Mr R W Doyle Foreign Body in the Eye.—Dr J Hearn Simple Photophobia and its Treatment by the Constant Current.—Dr A. Sandford Enlargement of both Lacrymal Glands causing Closure of the Palpebral Apertures removal.—Mr J Tatlam Thompson Ledgment of a Fragment of Steel in the Vitreous unusual track.—Dr A Bronner A peculiar case of Membranous Conjunctivitis.—Dr Sydney Stephenson Concerning Persistent Pupillary Membrane and its frequency

Friday, January 27

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
 UNIVERSITY COLLEGE HOSPITAL.—Eye Department, 2 P.M.
 LONDON POST-GRADUATE COURSE.—Hospital for Consumption, Brompton 4 P.M., Dr Percy Kidd Tubercular Affections of the Throat.—Bacteriological Laboratory King's College, 11 A.M. to 1 P.M., Prof Crookshank Cultivation of Bacteria (Cultivations).
 LONDON SKIN HOSPITAL (40 Fitzroy sq., W.)—3 P.M. Dr Saxenay Eczema, its Treatment in connexion with other Diseases and General Review
 CLINICAL SOCIETY OF LONDON.—Living Specimens at 8 P.M.—Mr C Mansell Moullin A case of Superficial Resection of the Superior Maxilla.—Mr Malcolm Morris A case of Urticaria Pigmentosa.—Dr Samuel West A case of Dermatitis Herpetiformis.—Dr Arlin Davies Cases of Myxedema treated by an improved method of giving the Thyroid Extract.—Dr Hector Mackenzie (1) A case of Myxedema of over four years' standing cured by Thyroid Feeding (2) A case of Myxedema treated with benefit by means of a Powder prepared from Thyroid Glands.—Dr Pasteur A case of Myxedema treated by Thyroid Gland Extract.—Mr Watson Cheyne A case of Nervoid condition of Limbs, with Enlargement and Elongation of Bones Papers at 9 P.M.—Mr Arbuthnot Lane A case illustrating a more effectual method of Removing a Cancerous Breast, Lymphatic Glands.—Mr R W Parker On the relative Merits of a Vertical and of a Transverse Incision in Supra pubic Cystotomy (with case Mr Arthur E Barker Subserous Uterine Hematocoele in a Girl eleven years simulating acute Appendicitis, Laparotomy, Recovery Mr F Eve A case of Unusual Form of Tuberculosis of Arm. Mr B Watne Wright A case of Exclusion of several Synovial Membranes for Tubercular Disease

Saturday, January 28

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and Skin Department 9.15 A.M.
 LONDON POST-GRADUATE COURSE.—Bethlem Hospital 11 A.M., Dr Percy Smith Mania

Notes, Short Comments & Answers to Correspondents.

EDITORIAL NOTICE

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed exclusively "TO THE EDITORS," and not in any case to a gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention given to this notice

It is especially requested that early intelligence of local cases having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to the Office

Lectures, original articles, and reports should be written on one side only of the paper

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication

We cannot prescribe or recommend practitioners

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor"

Letters relating to the publication, sale and advertising particulars of THE LANCET should be addressed "To the Publisher"

We cannot undertake to return MSS. not used

PUBLISHER'S NOTICE

IN order to facilitate the work of reference to the volume of THE LANCET, we have arranged in the future to publish duplicate copies of the Index to each half yearly volume in a form in which they may be subsequently filed or bound together

We have had a large number of duplicate copies of the Index to the last half yearly volume printed, and those of our subscribers who may wish to be supplied with loose copies can obtain the same (without extra charge) on making application to the Publisher of THE LANCET

"THE LANCET" LABORATORY

Dr M A Boyd.—We do not undertake to conduct private analyses. The work of THE LANCET Laboratory is carried out entirely at the proprietors' expense and is devoted wholly to matters relating to public health and the analysis of drugs and articles of food so far as they are considered to be of interest and concern to the medical reader

Dr J G.—The M.D. of Brussels is not registrable in England or as far as we know, in Victoria. The M.D. degree of Melbourne cannot be obtained *ad eundem* by a graduate of Brussels

DREAD OF CONTACT

MRS. LANNOLIS and WEILL recently brought before the Lyons Medical Society the case of a man who suffered from a peculiar mental state which makes him dread the touch of another person. He moves away if anyone comes near him and withdraws his hand if anyone attempts to take it, he is in a continual state of restlessness and if any person is behind him keeps turning his head for fear he may be touched. In hospital, if anyone approaches for the purpose of examining him, he jumps out of bed. Once he jumped from a first floor because some one came near him. He was brought into hospital because he was seized with an attack of some kind in the street, and was found to be suffering from aphasia. His fear of contact, which Drs. Lannolis and Weill designate "aphephobia," seems to be hereditary, his brother and a nephew suffering from the same affection.

FEES FOR MEDICAL EVIDENCE.

To the Editors of THE LANCET.

SIRS.—Will you kindly advise me as to whether I am entitled to a fee in the following case?

I had under my care in the hospital to which I am attached a patient suffering from a burn after being detained for several weeks she was transferred to an infirmary, where three weeks later she died. I was summoned to give evidence at the inquest but, having unfortunately lost the form I am unable to say if it was an ordinary or medical subpoena. At the inquest my evidence was taken as to the condition of the patient on admission, her condition while under observation and her state on discharge, with the reasons for her transference. My request for the usual fee was refused. In a subsequent letter the coroner based his refusal on the following grounds—"1. That you were not summoned as a medical witness by the usual medical summons. 2. That your evidence as a professional man was not required. 3. That you had relieved yourself from your responsibility as a medical man by discharging the deceased from your hospital and sending her to the infirmary. 4. That the reason you were summoned was to explain the fact of such removal." Surely the evidence I was called upon to give was of a purely professional nature and as such entitled me to a fee. Apologising for troubling you

I am, Sirs, yours truly

Jan. 17th, 1893.

HOUSE SURGEON

"It is difficult and sometimes impossible to define what is simply fact and what scientific opinion. Even if our correspondent were called as an ordinary witness it must have been difficult to have limited his examination to non professional matters. The first reason, if correct, and our correspondent is not in a position to deny it, given by the coroner would bar him from having a legal claim to a fee. With the third reason we do not agree. The discharge of the patient relieved our correspondent from responsibility as a practitioner but not as a medical witness.—ED L.

THE NURSING OF PARALYSED PATIENTS

In the columns of THE LANCET of Jan 7th, p 69 "M B" inquired as to the best material to use in the case of a patient in poor circumstances suffering from incontinence of urine and paralysis and unable to wear a urinal. A correspondent, writing from experience in a recent case which was found very difficult to manage—the case of a lady suffering from paralysis, incontinence of urine and faeces and bed sores—recommends the use of tow made into pads of twenty inches square with unbleached muslin. These are to be placed on water proof sheeting.

HOSPITAL DRESSERS TABLE.

To the Editors of THE LANCET

SIRS.—Under the heading of "New Inventions" in THE LANCET of the 7th inst appears a notice with woodcut of the above table. In THE LANCET of Sept 12th, 1891, page 616 you were good enough to notice a new surgical dressing waggon, invented and patented by Mr Bigg of Oxford. Now the table described in THE LANCET of this week is the exact counterpart of the one invented by Mr Bigg. These tables are made with marble glass or enamelled top with or without glass or porcelain trays, the drawers run the entire length of the table and can be opened from either side and there is a shelf for bowls &c. It is provided likewise with towel rail at the back and mounted on castors. Upon comparison you will find the table introduced by Messrs Carter is a facsimile of the one invented and patented by Mr Bigg, and of which we are the sole agents. We remain Sirs, yours faithfully

West Smithfield, Jan. 11th 1893.

ARNOLD & SONS

MEDICAL ADVERTISING

THE following extract from the advertising columns of the *Evening Advertiser* is another illustration of an insidious and growing evil. We acknowledge that it draws the line at a more modest point than in some other cases. But it violates the rule that medical men are not to seek practice and publicity through the advertising columns of newspapers—

Card—Dr David Donald begs to intimate that he has commenced the practice of his profession in Buchhaven.—Rowan Cottage West Wynd Buchhaven."

'THE SOURCES OF OUR ICE SUPPLY'

In an article in a recent issue of THE LANCET we drew the attention of our readers to the possible pollution of the sources of our natural ice supply. Mr T B Lightfoot, M.L.C.E. writes to say that there can be no doubt that in some instances disease has actually been traced to the use of contaminated ice. Such cases he affirms are well authenticated. There is however, in many large towns no difficulty, he points out, in procuring ice that is free from such objection. In London, Birmingham, Hull and elsewhere large quantities of ice are made from water that has actually been distilled while still larger quantities are artificially produced from drinking water. There are, in fact, few large towns unprovided with ice-making factories. He mentions as an instance large ice works in the East of London which produce about 120 tons per day one-half from distilled and one-half from main water. Refrigerating machinery, he adds, is now almost universally used for the storage of meat fruit, dairy produce and other perishable commodities and the present tendency is for such machinery to replace the use of ice even in small stores for butchers, game dealers &c. The temperature can be more easily regulated than with ice and the air is dried and purified, matters which are, of course, of paramount importance in the proper preservation of foods. The cost is also said to be less.

'VARICOSE VEINS AT THE ROOT OF THE TONGUE'

To the Editors of THE LANCET

SIRS.—In THE LANCET of Jan. 7th your correspondent, 'Ignoramus' asks for information with regard to varicose veins at the root of the tongue. I believe I was the first to draw attention to this subject in a paper at the International Medical Congress at Milan in 1890 and again by invitation, before the Philadelphia Medical Society in 1897. In these communications I endeavoured to point out that the varicosity in this situation was one of other objective reasons for many of the subjective symptoms generally considered as "hysterical" and also for many cases of hemorrhage of the throat which had sometimes led to a mistaken diagnosis of pulmonary disease. At the Birmingham meeting of the British Medical Association in 1890 I read a paper on Pharyngeal Tenesmus pointing out that these subjective symptoms in the throat were very analogous to similar sensations in the rectum and were caused by varicosity and an overgrowth of the adenoid tissue constituting together what I ventured to designate as "lingual hemorrhoids" or "throat piles."

I am Sirs, yours faithfully

Manfield street, W Jan. 9th 1893

LEYNOR BROWNE.

DEATH OF A FRENCH MEDICAL STUDENT

M. GÉRARD, a student of the French School of Military Medicine has recently died of an attack of diphtheria contracted in the course of some researches he was making on the ear of the fetus.

ERRATA.—In our account of the meeting of the Forfarshire Medical Association in our issue of last week, page 88, at lines 6, 7, 20 and 40, 'urea' should have been 'ria' at line 27 'sulphuric' ought to have been 'sulphonic' at line 41 'Lieber' should have read 'Sieber'.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS

(Taken daily at 8.30 a.m. by Stewart's Instruments.)

THE LANCET Office Jan 19th 1893.

Date.	Barometer reduced to Sea Level and 32° F	Direction of Wind	Dry Bulb.	Wet Bulb.	Radiation in Vacuum	Max. min. in Temp. Shade.	Min. Temp.	Rain-fall.	Remarks at 8.30 a.m.
Jan 18	30.07	N.W.	38	36	52	48	35	.02	Overcast
" 14	29.72	W	39	37	43	40	27	.01	Overcast
" 16	30.19	N.E.	30	28	50	33	28		Cloudy
" 16	30.00	S.W.	31			42	26		Snowing
" 17	29.80	S.E.	32			38	20	22	Overcast
" 18	30.13	S.W.	36	34	61	47	31	12	Raining
" 19	30.45	S.W.	42	41	49	45	36	07	Overcast

During the week marked copies of the following newspapers have been received—*Evening News* and *Post* Jarrow Express, *Edinburgh Evening Dispatch*, *Era*, *Richmond South Africa Herald*, *Times*, *Evening Express* (Liverpool), *North British Daily Mail*, *Sheffield Daily Telegraph*, *English Mechanic*, *Pall Mall Gazette*, *Inventions*, *Sanbury Advertiser*, *Bacon County Times*, *The South Africa West Australian* (Perth), *West London Observer*, *Worcestershire Echo*, *Albany Express* (New York), *Southern Echo*, *Isle of Wight Mercury*, *Manchester Examiner*, *Weekly Herald*, *City Press*, *Leeds Mercury*, *Liverpool Daily Post*, *Yorkshire Post*, *Bristol Mercury*, *Reading Mercury*, *Local Government Chronicle*, *Hertfordshire Mercury*, *Weekly Free Press* and *Aberdeen Herald*, *Mining Journal*, *Guy's Bygones Gazette*, *Surrey Advertiser*, *Scottish Le Temps* (Paris), *Bombay Gazette*, *Irish News*, *West Middlesex Advertiser*, *Blackpool Times*, *Scottish Leader*, *Saturday Herald*, *Bath Gazette*, *Court Journal*, *Sanitary Record*, *Times of India*, *Pioneer Mail*, *Sunday Times*, *Harrgate Advertiser*, *Cumberland Advertiser*, *Lynn News*, *Steyning Standard*, *Citizens Builder*, *Architect*, *West Middlesex*, *Steyning*.

Communications, Letters &c. have been received from—

- A.—Mr W S Alexander, Sheffield, Messrs. Allen and Hanburys, London, A. B., London All World Advertising Co, Belfast, A. M., Petworth, Alma, London
- B.—Dr Bastian, London Mr Bryce, Edinburgh, Mr William Berry, Wigan, Surg Maj J W Black, Edinburgh Mr F J Burge, Shanghai, Mr J Birchall, Liverpool, Councillor Baxter, Leith, Mr J Beckton, London, Mr Leonard A Bidwell, London, Dr J Boyd, Shannan, Miss Elizabeth Bounce, Kensington, Messrs. Brady and Martin New-castle on Tyne, Messrs Battle and Co, Paris, Messrs. W H Bailey and Son, London Bury Dispensary Hospital, Borough Hospital, Birkenhead.
- C.—Dr James Caskin, Merthyr Tydfil, Dr A. H. W. Clemen London Dr Chaplin, Anerley Park, Dr David Couper, Glasgow, Mr C J Croft London, Mr Clark, West Brighton, Dr John Cramer, Maryport, Mr Chas. V Chapman London Mr W Campbell Liverpool Mr J Chamberlain, Bradford, Messrs A. H. Cox and Co Brighton Messrs. T Colman & Co, London Cosmos, London.
- D.—Surg Maj A Duncan, London, Mr B. C. Dekings London, Mr J W Draper, Huddersfield
- E.—Mr F W Enrick, Bradford, Mr Edw East, British Medical Benevolent Fund.
- F.—Dr James Galloway, London M. Gentile Paris, Mr Leonard Guthrie London Mr J Good, Robertbridge, Mr W George, Preston, Mr Wm Gosse, Sittingbourne, Great Northern Central Hospital, London.
- G.—Dr A W Hare, Matlock Mr J C Humphreys, London Mr Heywood Manchester Mr W Hornbrook, London, Mr Robert Hunter Pontypriid Mr J Hart London, Mr L. G. Hill, Bow Mr J Lawrence Hamilton, Brighton Messrs Herts, Son and Co London, Messrs Hertz and Collingwood, London.
- H.—Dr Brindley James, Wimbleton Mr C H Johnston Canada Jabez, London.
- I.—Dr R. Lawford Knaggs, Leeds, Mr B Kühn, London, Mr P. A. Kelly, Cardiff, Mr A. Altho Knight, London, Mr J A Campbell Kynoch, London, Messrs. Kelly and Co, London, Messrs R. A Knight and Co
- L.—Dr J Fletcher Little London, Dr Ledlard, Carlisle Dr Elmer Lee, Chicago, Mr E Muirhead Little, London Mr Bichd. Lake, Barnes, Messrs. Lee and Martin, Birmingham, L. H. S. London
- M.—Dr J Mackie, Alexandria, Mr F W Mann, Ashton under Lyne, Mr E. H. Mill Roberts, Llanberis Mr J McNaught, co Kildare, Mr A. John Marshall, St. Petersburg Mr T E Mayhew, Ipswich Mr McNaught Water foot, Mr William Martindale, London, Messrs Macfarlan and Co London, Messrs. Mayor and Meltzer, London, M. D. Chancery lane, Manchester Medical Society
- N.—Mr L. F. Nash, Hackney, N J G National Hospital for the Paralysed, Bloomsbury
- O.—Dr H O'Neill, Belfast, Mr Orchard, Notting hill
- P.—Dr A G Paterson, Ascot, Mr C H Power, Silloth, Mr Edwin Potter, London Dr L Phillips, Birmingham, Mr R. W Pendleton Brighton
- Q.—Quies, London
- R.—Dr J Cartwright Reed, Cape Colony, Dr R. R. Rentoul, Liver pool, Lord Rowton Berkeley square, Mr E Waymouth Reid, Dundee, Mr Edward Ryall, London, Messrs. Ross and Sons, Belfast.
- S.—Mr A. Sims Leopoldville, Mr T Smith, London Mr A. A. Sakir, Mr Stenhouse Glasgow, Mr F Sydenham Walsall Mr J S Smith Blandford, Messrs W H Smith and Son, Birmingham Messrs. Shelby and Co, London Messrs. Street Bros, London Messrs R. and H. Somerville Edinburgh
- T.—Mr Lawson Tait Birmingham Mr C Price Tunner, Worcester
- V.—Mr J W Vickers, London.
- W.—Dr Wethered, London, Dr R. Whittington Lowe, London Mr W Woodward, Worcester, Mr W G Woolcombe, Italy Mr H T Wightman Sheffield Mr W P Walsh, Skipton, Marie Wimpfelmer, Liverpool.

Letters, each with enclosure, are also acknowledged from—

- A.—Dr Adams, Croydon, Dr Adye, Bradford on Avon, Mr A. H. Allen, Sheffield, Mr F Arnold, Margate, A. B., London, Alpha, Kingstown, Aqua, London.
- B.—Mr H. Brennan, East Finchley, Mr Bell, Lancaster, Mr J Boys Slamannan, E Beck, Ravenstonedale, Messrs Benger and Co, Manchester, *Birmingham Daily Gazette* B B, London, B W M., London, *British and Colonial Druggist*, London, B F, London, B M., London.
- C.—Mr C W Cathcart, Edinburgh, Rev A. Cleveland, Selby, Messrs. Condy and Mitchell, London, C F, London, Class Rooms, Edin
- D.—Mr A. Dott, Crestown, N B, J E. Dunn, Preston Doubly Qualified, London, D A. S., London
- E.—Mr Edwards, Durham, Mr B Edwards, Birmingham, Mr G Y Eales, Torquay, Mr G W Ellis, Bishop Auckland, Elak, London, E W, Chester, E E J B
- F.—Mr F D Fisher, Newbridge.
- G.—Dr H Gilbert, Baden Baden, Mr C Granville, Leytonstone, Mr Galt, Stewarston, G S E. London, Gamma, London
- H.—Mr T T Hale, Chesterfield, T W Hime, Bradford, Mr W Halley, Fulham, Mr Haydn Brown, Guernsey, Horam, Bax hill on Sea, H. L. S. London
- J.—Mr Jolly, Birmingham, J B, London.
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The Hunterian Oration,

Delivered in the presence of their Royal Highnesses the Prince of Wales and the Duke of York at the Royal College of Surgeons of England on the Centenary of Hunter's Death, Feb 14th, 1893

By THOMAS BRYANT, F.R.C.S. Eng. & I., M.Ch.
PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND
CONSULTING SURGEON TO GUY'S HOSPITAL.

PART I.

HUNTER AS A THINKER AND REASONER.

MAY IT PLEASE YOUR ROYAL HIGHNESSES MR. VICE PRESIDENT, MY LORDS AND GENTLEMEN,—I feel sure that I am but expressing the general sentiment of the representative body of surgeons here assembled when, in their names and in that of the College over which it is my privilege to preside, I offer to your Royal Highnesses our respectful thanks for your presence here to-day. We venture to accept your presence on such an occasion at the celebration of the centenary of the death of the great founder of scientific surgery as an indication of your approval of the work of this College as a public institution, and as a promoter of the scientific surgery that John Hunter established. We would assure your Royal Highnesses that your visit will not only be gratefully remembered but prove to be a powerful incentive to our continued good work as the national custodians of the Hunterian Museum, guardians of Hunter's reputation and promoters of the art and science of surgery.

One hundred and sixty five years ago a careful observer might have read in one of the papers of the period the announcement that on Feb. 14th, 1728, the wife of John Hunter of Long Calderwood, in the parish of East Kilbride, East Lanarkshire, about eight miles from Glasgow gave birth to a son, this son being her tenth child, her husband being then sixty four years of age. Sixty-five years later—that is, in 1793, or one hundred years ago—another observer would have read in the *Oracle* of Oct. 18th an intimation of the death of this son, who had been named John after his father, in the following terms: "This eminent surgeon and valuable man was suddenly taken ill on Wednesday (Oct. 16th) in the council room of St. George's Hospital. After receiving the assistance which could be afforded by two physicians and a surgeon he was removed in a Sedan chair to his own house in Leicester square, where he expired about two o'clock, in his sixty sixth year. The profession has lost in him one of its principal pillars and brightest ornaments and mankind may lament in him one of their best benefactors. The ardour and success with which he cultivated natural knowledge and philosophy and rendered them subservient to his profession had deservedly raised him to the first name. The monument of industry and genius which he has left behind will best speak his praise and call for the gratitude of this and future ages."

These two announcements intimated to the world the beginning and ending of the life of a man who has become one of the most brilliant of the fixed stars of our national genius, and he became so, not so much by his contributions to the stock of human knowledge, which in themselves were colossal, as by his opening up a line of investigation which was entirely original, and by his marking out in the clearest way the paths which all future investigators must tread who desire to decipher the problems of life, disease and death. During this century "Great men have been among us hands that penned and tongues that uttered wisdom," but to-day we celebrate the death of the greatest, and I would that I had the wisdom of a Bacon and the eloquence of a Burke to do justice to his memory. As a humble disciple, however, of John Hunter and in the presence of his followers, many of whom have in adding lustre to his reputation acquired much for their own, I propose to display before you some of the leading conclusions of his life, and by trying to understand his methods and modes of work learn how we can help ourselves and those who may follow us to maintain, extend, and develop what will endure for all time—the school which Hunter originated and to which every good surgeon since his age has unquestionably belonged, for the Hunterian era of surgery which is rightly marked by Dr. Billings of Washington as the starting point of modern surgery, is now established

and it is but right that we, its professors, should do our best, not only to encourage the study of Hunter's works, which have a power of awakening thought and stimulating industry of a unique character, but to provoke those who shall come after us to the imitation of whatever there was of good report, noble, or lovely in Hunter's life, as well as in the lives of those who since our last oration have, in the words of Dante,

"Doffed this garb of frail mortality"

I would here introduce the names of some distinguished Fellows of our College, with the dates of their death, who have gone "where we all must go" since our last oration. Sir Prescott Hewett died, aged seventy nine, on June 19th, 1891, John Wood, aged sixty six, on Dec. 19th, 1891, Berkeley Hill, aged fifty eight, on Jan. 7th, 1892, Sir William Bowman, aged seventy six, on March 29th, 1892, Charles Hawkins, aged eighty on April 4th, 1892, F. Le Gros Clark, aged eighty-two, on July 19th, 1892, Edward Cock, aged eighty-seven, on Aug. 1st, 1892, Samuel A. Lane aged ninety, on Aug. 2nd, 1892, Alfred Baker, aged seventy eight, on Jan. 12th, 1893—all good Hunterian surgeons who made for themselves names which will long be remembered by the members of the profession they adorned, and many of whom held high office in this College, and last, but not least, I must mention the name of our oldest Fellow, that great anatomist, biologist and natural historian, Hunter's greatest expositor, Sir Richard Owen, who died on Dec. 18th aged eighty seven, and by his long and well-spent life not only left natural science greatly his debtor, but by his genius and industry attracted to the museum of this College the attention both of the scientific and lay world and helped, in a measure which is difficult to calculate, during the twenty-eight years of labour he devoted to our Hunterian collection as Clift's assistant, and our conservator and professor to place it in the proud position in which it now stands. May this College never forget these signal services, nor fail to do honour to the memory of this great man.

I have no intention of entering into the particulars of Hunter's early life, but, brought up as he was by a loving mother and guided by a father 'who maintained to the very end of his life (1742)—that is to his son John's fourteenth year—a clear and sound judgment, as well as the tenderest and wisest interest in the welfare of his children' (Simmon's letter) there is no reason to think that John, more than any of his children was left uncared for, but every reason to believe it probable, with Luther Holden, our eloquent orator for 1881, that John was educated at the same school as his brothers William and James, and that he was brought under the influence of an equally good moral training. That he spent much of his time in country amusements and country pursuits is more than probable, but that he did so as an idler is beyond belief for on his own authority we have it stated that when "I was a boy I wanted to know about the clouds and the grasses and why the leaves changed colour in the autumn, I watched the ants, bees, birds, tadpoles and caddis worms. I pestered people with questions about what nobody knew or cared anything about," and can we, with our full knowledge of the man and of what he subsequently achieved, say that the education he has himself described so tersely and so well was not for him the very best he could have had? For, 'as the child is father of the man,' is it not as clear as daylight that all his senses had been educated to the highest degree, and that not one had been allowed to slumber, whilst his reasoning powers had been brought to bear upon problems of the highest interest concerning things above, upon and beneath the earth, and in what better way could they have been employed? It was not, however till he came to London at the age of twenty that his "natural fitness for the study of living things" had full scope in the dissecting room and museum of his highly distinguished brother William. For it was there that new worlds of wonder were opened to him in human and comparative anatomy, and it was there likewise that he used his opportunities of questioning nature so well, as not only to open up fresh avenues of knowledge, but to demonstrate the necessity of making comparative anatomy and physiology preliminary studies to that of life as well as of disease, pathology following in the line of physiology. Hunter's physiology, moreover was of no narrow type, but of the broadest and deepest character. Indeed, it included 'the whole science of the normal life of all things that live or have lived in both the vegetable and animal kingdoms, and his comparative anatomy was no less inclusive, for it took in the comparative structure of all living things with

the uses and functions of their different parts. Whilst he unveiled many of the secret operations of nature, his material was so arranged as to illustrate the workings of every vital process as displayed in each organ, and traced through every gradation of being, from the lowest to the highest, or, to quote from our second conservator, the late Sir Richard Owen, "his labours not only established a body of physiological doctrines, to the happy influence of which every cultivator of the healing science now bears grateful testimony, but they deserve to be viewed in the light of a first attempt to arrange in one concatenated system the diversified facts in comparative anatomy", comparative anatomy in Hunter's time being a new science.

If we ask ourselves what it was which helped to make Hunter great, we must, as an encouragement to weak humanity, refer to his industry, for John Hunter was industrious in the highest degree and possessed a transcendent capacity for taking trouble. Without this attribute it is probable that his other great qualities would have failed to have made him famous, and they certainly would never have enabled him to leave the unique collection of biological facts behind him, such as is contained in the museum it is our pride as Englishmen and our privilege as British surgeons to possess. I emphasise this quality of industry, as it can never be too strongly or frequently repeated that industry and the capacity of taking trouble are essential qualities for success in every calling or walk in life, and that without them all intellectual qualities, however noble, are apt to be frittered away and rendered futile. The pages of history record the wreck of many men of high promise and intellectual ability who have failed to shed a lustre upon their period for want of this essential qualification. As an additional testimony to Hunter's industry let me quote from a lecture of our late curator—a successor of Sir Richard Owen—now so worthily known as Sir Wm. Flower, in which he said "that Hunter had collected materials for a work which needed but the finishing touches to have made it one of the greatest, most durable, and valuable contributions ever made by one man to the advancement of the science of comparative anatomy".¹ So that on the authority of the late Sir Richard Owen we have it stated that Hunter made the first attempt to establish a new science, that of comparative anatomy, and on the authority of Sir Wm. Flower we are told that the success of the attempt was in itself complete. As an observer John Hunter stands pre-eminent, and as an indefatigable student of nature he was supreme, nothing escaped his attention, and what he observed he verified so carefully and thought over so intently that he saw more accurately, deeply, widely and sagaciously than anyone else. In all his works Hunter followed the Baconian method, and yet we have no evidence that he knew anything of Bacon's work or of the inductive mode of reasoning which he introduced. Hunter, apparently out of the depth of his own nature, unconsciously travelled along the Baconian road. From boyhood, as he himself has told us, he had observed and interrogated nature in many of her works, and as a result of his observations high problems had been suggested. He wanted even then to know many things which seem still unknownable. This want indeed never left him and to supply it he, as life went on, diligently sought for every fact his senses could discover in the different lines of investigation he followed, and, what is more, described the facts he found with an accuracy which is absolute, where he was uncertain of his facts he looked again, and to test a doubtful one he experimented. He always doubted what he could not prove. Hunter observed to find facts, and experimented to make and to prove them. The absolute necessity of *accuracy of observation* was so fully recognised by Hunter that he trusted nothing to memory, but wrote down what he saw at once, for, using his own words he felt that "men should be very accurate in ascertaining the truth of facts before they advance them, especially when they tend to overturn a received opinion or to establish a new one".

If Hunter was great from his industry and as an observer, he was still greater as a *thinker and reasoner*. Facts alone could not satisfy his mind. He, of necessity, speculated upon their value, and reasoned upon them with a closeness and far seeing intelligence which was surprising. He seemed as by intuition to recognise at once the full value of any fact and to be able to place it in its right position in relation to all knowledge, as a consequence, he was able, from the accumulation of the material which his observation and

experience had yielded, to elicit the principles upon which they were founded and the processes by which they were brought about. Much as Hunter did, said his friend Cline in this theatre in 1816, "he thought more. He has often told me his delight was to think." "The facility with which a man thinks," said Hunter himself, "gives him a superiority over others, few," he added, "have observed nature with more attention than myself, yet, even now, I think myself scarcely equal to the task I am undertaking—the elucidation of the economy of human life." Again, in the year 1768, "I," wrote Hunter, "was called upon to be a teacher of anatomy, but I congratulate myself that I did not become so, as it could not have failed of engaging my attention too much to admit that general attention I have been able to pay to surgery, and the necessity I should have been under to read might have occupied me too much and prevented my forming habits of established modes of thinking." Again, "what, more than all, induced me to lecture was the great advantage everyone finds by putting his thoughts into writing. A man can never tell how much he knows till he arranges his knowledge, and then he can tell how defective it is." It must therefore be accepted that deep thinking was one of Hunter's characteristics, and I can give you no better evidence of this than that quoted by Abernethy, on the authority of Clift, "that Hunter would stand for hours motionless as a statue, except that with a pair of forceps in either hand he was picking asunder the connecting fibres of some structure he was studying," and this was written of him in the year of his death.

What a picture is here presented to our minds of Hunter as an inductive thinker! The new fact displayed to view after infinite trouble. The dissector patiently reasoning out its meaning standing for hours, in the words of an eloquent friend, before me, "patient and watchful as a prophet, as if he were sure that the truth would come—in the clearing of some mental cloud, or as in a sudden flash, with which, as in an inspiration, the intellectual darkness became light."² The picture is complete. It should be painted by another Reynolds. But Hunter was more than a thinker and reasoner on facts, although as a man of science he contemplated nature with his understanding, and, as a lover of truth, he kept to his facts, for he possessed to an equally high degree imagination and an intellectual foresight, with that higher degree of intellectual power which enables a man to recognise a truth directly it is enunciated, to perceive self evident facts, and through them to read the laws and fundamental principles by which nature works. He obtained his ideas as much through the reason by reflection as through the senses. In the speaking portrait above me this mental characteristic of John Hunter is displayed in a manner which genius alone could have depicted, for the thinker is clearly looking upwards as if he had heard "whisperings from the Infinite," and at the moment when one of the laws by which nature works had suddenly dawned upon him. He is manifestly looking beyond the mists which surrounded the wonderful world of life he had so long been investigating and many of the mysteries of which it had been his privilege to unveil. Indeed, Hunter's intellectual faculties had been so highly educated and were of so high an order that he was able to read the unknown truth in the known fact and by observation and thought to work out principles and general truths which have thrown a flood of light for ever not only upon all past but upon future knowledge. And what is more, his work has been so suggestive that whilst we his successors, adopt his thoughts we profit by the thoughts that his suggest. In all Hunter's work fact and theory were indissolubly bound together, and as a proof that his theories were good every fresh fact he discovered found its place in them. "My mind is like a beehive," said Hunter to Abernethy, one of Hunter's friends and earliest and most enthusiastic expositors, and "the simile struck me," wrote Abernethy, "on account of its correctness for in the midst of buzz and apparent confusion there was great order, regularity of structure and abundant food, collected with incessant industry from the choicest stores of knowledge." Hunter apparently had no idea of his own great intellectual powers. Abernethy records he had heard Hunter say, "I know I am but a pigmy in knowledge," and declare that he was not conscious of possessing any peculiar talent, and that if he had promoted professional knowledge it seemed to him chiefly to have arisen from his disposition to distrust opinions and to examine every subject

¹ Introductory Lecture, Royal College of Surgeons, Feb. 14th 1870

² Sir James Paget Hunterian Oration, 1877

for himself. But it may be fairly asked, Was not this state of Hunter's mind due to the fact that his knowledge was so great that he knew his littleness? I rather incline to this latter view.

Hunter was a nervous man and much disliked speaking in public. He never gave his first lecture, wrote Sir F. Home, without taking thirty drops of laudanum to take off the effects of his nervousness. Hunter lectured always from notes which he read, and from comparing different copies of his lectures I am sure that he divided his subjects into aphoristical paragraphs, which he subsequently enlarged upon and illustrated by cases. He also revised and corrected his great work on the blood, inflammation, and gunshot wounds for twenty years before he prepared it for the press, and he then died before it was published. He did this because he was always unwilling, to publish anything which appeared to himself unfinished, for the same reason he would often withdraw papers read before the learned societies because he felt they wanted something more to make them satisfactory. With Hunter this cautiousness was something of a misfortune, for his great work on inflammation and gunshot wounds upon which so much of his professional reputation has been built, was not published till after his death, and had it not been for his public lectures in the school of St. George's Hospital and at 28 The Haymarket, his advanced views of pathology and surgery would during his lifetime have been little known. It was probably on this account that Hunter was insufficiently appreciated. His teaching was known but to a few. It is interesting to speculate as to what would have been the effect of this cautiousness in publishing if it had been as rigidly observed by Hunter's followers as it was by Hunter. Should we have been great losers by its adoption and would individuals have been great gainers? Could we now with any truth agree with Hunter when he wrote "That it is surprising to see how a young man, if he catches an idea which has any novelty will write away on it—he will tell you wonders," and can we say, if the tillers of the field of science are now more numerous than they were in Hunter's day that they are so eager to reap the fruit of their labour as to bring it to market before it is ripe? Extreme cautiousness and a dread lest he might have been led to publish any new thought before it was absolutely proved was evidently one of Hunter's characteristics, and, as a further proof of this it should be added that Hunter always regarded any opinion or conclusion he formed as provisional, for he felt that one new fact or observation might lead him to change it. He would say to students he was teaching "You had better not write down that observation, for very likely I shall think differently next year."

As an experimenter Hunter was a king and a model one. He never made an experiment without a definite object, either to illustrate an idea, prove a fact clear up a doubt or enable him to grasp a truth which he could not prove, and although he made every investigation that he could the subject of experiments each one was preceded by deep reflection. In one place he said "that it was not justifiable to draw conclusions from a single experiment." In another, "I think it may be set down as an axiom that experiments should not be often repeated which merely tend to establish a principle already known and admitted, but that the next step should be the application of that principle to useful purposes," and later on he wrote, "We can have no very high idea of experiments made by men who, for want of anatomical knowledge, have not been able to pursue their reasoning beyond the simple experiment itself. It happens, unfortunately," he added, "that those who from the nature of their education are best qualified to investigate the intricacies and improve their knowledge of the animal economy, are compelled to get their living by the practice of a profession which is constant employment." To his friend Jenner, who had given only a conjectural solution of the phenomenon, he wrote "I think your solution is just, but why think? Why not try the experiment! Repeat all the experiments as soon as you receive this and they will give you the answer. Fontana's experiments," he wrote, "for injecting solutions into the blood are not worth a pin, and that owing to his not having a knowledge of this fact—that air thrown into the vessels kills. After I discovered this I went over all my experiments again and found very different results when I injected no air, which before that had been frequently inserted."

Now I must give one further quotation from Hunter as to the general outcome of experiments. "In pursuing any subject most things come to light. It were by accident—that is,

many things arise out of investigation that were not at first conceived, and even misfortunes in experiments have brought things to our knowledge that were not, and probably could not have been, previously conceived. On the other hand, I have often devised experiments by the bedside or in my carriage, and have also conceived the result, but when I tried the experiment the result was different, or I found that the experiment could not be attended with all the circumstances that were suggested."

These views of Hunter upon experiments cannot be other wise than valuable. They are characterised by absolute honesty of purpose and breadth of knowledge. Last, but not least, Hunter *worked for fame and not for profit*. What he made in his profession he spent on his museum, and when he was interrupted in his scientific pursuits to earn a fee he went because he knew he would want the fee to-morrow to supply his needs. He never went from choice, for his inclination would have held him closely to his work. He was also an enthusiast in all he did, and he therefore worked with a will. And can we wonder at his being so? for at every step in his investigations fresh natural beauties were being revealed, and at every resting place with his luminous mind these fresh beauties suggested the laws and principles on which they rested. And, if in us the mere reading of his works produces an intellectual pleasure of a stimulating and awakening nature, with what an intense thrill of satisfaction must the first vivid conception of those secrets of the laws of nature have been attended in his frame, and with what natural reluctance would he have left his dissecting table!

I have thus, then, so far in this lecture been considering Hunter as a worker, for it has been my privilege and pleasure to place before you the main mental characteristics of an vigorous and original a human being as mankind has ever seen, of one who came into the world with little promise, and some say with less advantages than most, but whose faculties budded out so rapidly under favourable conditions as to enable their possessor to remodel the fabric of knowledge and revolutionise our modes of thought, as well as to bring forth leaves, flowers, and fruit for his own generation to wonder at, and for all future generations to enjoy and feed upon, for the flowers and fruit of Hunter's genius are everlasting. I might add that Hunter was said by Sir E. Home to have been of a short stature. By Dr. Adams he was described as being much below the middle stature. By Mr. Clift he was said to have been five feet two inches, and Clift must have been right. He was uncommonly strong and active, very compactly made, and capable of great bodily exertion. His countenance was animated, and in the latter part of his life deeply impressed with thoughtfulness, and thus we can well understand if we attempt to understand such a man at all and if the information we have of his thoughts and doings is correct.

In the sketch of Hunter's character and mental characteristics which I have ventured to place before you I have taken the liberty of illustrating Hunter by Hunter, for I felt that so remarkable a man could be best interpreted by himself, and I have thus quoted his own words where they could be found rather than the opinions of others, and his own acts as they have been recorded in his works. Indignantly, therefore, we must pronounce the verdict that John Hunter as a man had individual and intellectual qualities which have never been surpassed, if ever equalled, and if he had imperfections we will not look for them, for he was human, and no shortcomings could dim the lustre of his splendid genius.

PART II.

HUNTER AS A BIOLOGIST

I will now pass on to consider what Hunter did, and I fear that here failure must follow the attempt, for in re-reading all his works and the works of his commentators I feel almost lost in wonder at the magnitude and variety of his undertakings and of his performances, for the whole world of vegetable and animal life was his subject, and the workings of everything possessing life the objects of his scrutiny. If form and structure were his chief early studies, function and purpose always occupied a large part of his attention, and these he regarded as much in a state of health as under the influence of disease, as much in their abnormal as in their normal relations. "Vital operations were," he said, "always his favourite business and amusement." Yet this study of all these subjects was only a means to an end, and was subordinate to the main object of his life—namely, the improvement of surgery by the elucidation of pathology.

the uses and functions of their different parts. Whilst he unveiled many of the secret operations of nature, his material was so arranged as to illustrate the workings of every vital process as displayed in each organ, and traced through every gradation of being, from the lowest to the highest, or, to quote from our second conservator, the late Sir Richard Owen, "his labours not only established a body of physiological doctrines, to the happy influence of which every cultivator of the healing science now bears grateful testimony, but they deserve to be viewed in the light of a first attempt to arrange in one concatenated system the diversified facts in comparative anatomy", comparative anatomy in Hunter's time being a new science.

If we ask ourselves what it was which helped to make Hunter great, we must, as an encouragement to weak humanity, refer to his industry, for John Hunter was industrious in the highest degree and possessed a transcendent capacity for taking trouble. Without this attribute it is probable that his other great qualities would have failed to have made him famous, and they certainly would never have enabled him to leave the unique collection of biological facts behind him, such as is contained in the museum it is our pride as Englishmen and our privilege as British surgeons to possess. I emphasise this quality of industry, as it can never be too strongly or frequently repeated that industry and the capacity of taking trouble are essential qualities for success in every calling or walk in life, and that without them all intellectual qualities, however noble, are apt to be frittered away and rendered futile. The pages of history record the wreck of many men of high promise and intellectual ability who have failed to shed a lustre upon their period for want of this essential qualification. As an additional testimony to Hunter's industry let me quote from a lecture of our late curator—a successor of Sir Richard Owen—now so worthily known as Sir Wm. Flower, in which he said "that Hunter had collected materials for a work which needed but the finishing touches to have made it one of the greatest, most durable, and valuable contributions ever made by one man to the advancement of the science of comparative anatomy." So that on the authority of the late Sir Richard Owen we have it stated that Hunter made the first attempt to establish a new science, that of comparative anatomy, and on the authority of Sir Wm. Flower we are told that the success of the attempt was in itself complete. As an observer John Hunter stands pre-eminent, and as an indefatigable student of nature he was supreme, nothing escaped his attention, and what he observed he verified so carefully and thought over so intently that he saw more accurately, deeply, widely and sagaciously than anyone else. In all his works Hunter followed the Baconian method, and yet we have no evidence that he knew anything of Bacon's work or of the inductive mode of reasoning which he introduced. Hunter, apparently out of the depth of his own nature, unconsciously travelled along the Baconian road. From boyhood, as he himself has told us, he had observed and interrogated nature in many of her works, and as a result of his observations high problems had been suggested. He wanted even then to know many things which seem still unknownable. This want indeed never left him, and to supply it he, as life went on, diligently sought for every fact his senses could discover in the different lines of investigation he followed, and, what is more described the facts he found with an accuracy which is absolute, where he was uncertain of his facts he looked again, and to test a doubtful one he experimented. He always doubted what he could not prove. Hunter observed to find facts, and experimented to make and to prove them. The absolute necessity of accuracy of observation was so fully recognised by Hunter that he trusted nothing to memory, but wrote down what he saw at once, for, using his own words he felt that "men should be very accurate in ascertaining the truth of facts before they advance them, especially when they tend to overturn a received opinion or to establish a new one."

If Hunter was great from his industry and as an observer, he was still greater as a *thinker and reasoner*. Facts alone could not satisfy his mind. He, of necessity, speculated upon their value, and reasoned upon them with a closeness and far seeing intelligence which was surprising. He seemed as by intuition to recognise at once the full value of any fact and to be able to place it in its right position in relation to all knowledge, as a consequence, he was able, from the accumulation of the material which his observation and

experience had yielded, to elicit the principles upon which they were founded and the processes by which they were brought about. Much as Hunter did, said his friend Cline in this theatre in 1816, "he thought more. He has often told me his delight was to think." "The facility with which a man thinks," said Hunter himself, "gives him a superiority over others, few," he added, "have observed nature with more attention than myself, yet, even now, I think myself scarcely equal to the task I am undertaking—the elucidation of the economy of human life." Again, in the year 1768, "I," wrote Hunter, "was called upon to be a teacher of anatomy, but I congratulate myself that I did not become so, as it could not have failed of engaging my attention too much to admit that general attention I have been able to pay to surgery, and the necessity I should have been under to read might have occupied me too much and prevented my forming habits of established modes of thinking." Again, "what, more than all, induced me to lecture was the great advantage everyone finds by putting his thoughts into writing. A man can never tell how much he knows till he arranges his knowledge, and then he can tell how defective it is." It must therefore be accepted that deep thinking was one of Hunter's characteristics, and I can give you no better evidence of this than that quoted by Abernethy, on the authority of Clift, "that Hunter would stand for hours motionless as a statue, except that with a pair of forceps in either hand he was picking asunder the connecting fibres of some structure he was studying," and this was written of him in the year of his death.

What a picture is here presented to our minds of Hunter as an inductive thinker! The new fact displayed to view after infinite trouble. The dissector patiently reasoning out its meaning, standing for hours, in the words of an eloquent friend, before me, "patient and watchful as a prophet, as if he were sure that the truth would come—in the clearing of some mental cloud, or as in a sudden flash, with which, as in an inspiration, the intellectual darkness became light." The picture is complete. It should be painted by another Reynolds. But Hunter was more than a thinker and reasoner on facts, although as a man of science he contemplated nature with his understanding, and, as a lover of truth he kept to his facts, for he possessed to an equally high degree imagination and an intellectual foresight, with that higher degree of intellectual power which enables a man to recognise a truth directly it is enunciated, to perceive self evident facts, and through them to read the laws and fundamental principles by which nature works. He obtained his ideas as much through the reason by reflection as through the senses. In the speaking portrait above me this mental characteristic of John Hunter is displayed in a manner which genius alone could have depicted, for the thinker is clearly looking upwards as if he had heard "whisperings from the Infinite," and at the moment when one of the laws by which nature works had suddenly dawned upon him. He is manifestly looking beyond the mists which surrounded the wonderful world of life he had so long been investigating and many of the mysteries of which it had been his privilege to unveil. Indeed, Hunter's intellectual faculties had been so highly educated and were of so high an order that he was able to read the unknown truth in the known fact, and by observation and thought to work out principles and general truths which have thrown a flood of light for ever not only upon all past but upon future knowledge. And what is more, his work has been so suggestive that, whilst we his successors, adopt his thoughts we profit by the thoughts that his suggest. In all Hunter's work fact and theory were indissolubly bound together, and as a proof that his theories were good every fresh fact he discovered found its place in them. "My mind is like a beehive," said Hunter to Abernethy, one of Hunter's friends and earliest and most enthusiastic expositors, and "the simile struck me," wrote Abernethy, "on account of its correctness for in the midst of buzz and apparent confusion there was great order, regularity of structure and abundant food, collected with incessant industry from the choicest stores of knowledge." Hunter apparently had no idea of his own great intellectual powers. Abernethy records he had heard Hunter say, "I know I am but a pigmy in knowledge," and declare that he was not conscious of possessing any peculiar talent, and that if he had promoted professional knowledge it seemed to him chiefly to have arisen from his disposition to distrust opinions and to examine every subject

from nature in a manner peculiar to itself—each part of each species seems to have its monstrous form originally impressed upon it.” And, lastly, he formed the superb conception “that in nature nothing is irregular nothing is perturbed, nothing is disobedient, and everything is really regular, uniform and obedient to recognised principles.” With him the science of pathology did not mean the laws of disease in man alone or even in the whole organic kingdom, but it meant the laws of disease and malformation in the entire material world, organic and inorganic.”

These are only a few of the broad generalisations which John Hunter deduced from his careful exposition of biological facts and patient and deep thought upon their meaning. They are grand conclusions even now, if we regard them in the light of our present advanced knowledge, but they become grander when we recall the fact that biology and comparative anatomy in Hunter’s day were unknown sciences and branches of knowledge for which there was no taste. Indeed, I have out of Hunter’s own mouth already recorded how that he had as a boy pestered people with questions on natural history, subjects about which nobody knew or cared anything and it is very probable that as a man he might have said nearly the same thing. It is true that the discoveries of William Harvey, which were made known in 1620, had not only dispersed for ever the mists of vague speculation which had so grievously hung around the great central point of physiology—the circulation of the blood—but by the illuminating influence of his work had thrown a light upon many other dark spots of knowledge, which ought to have and might have enabled some of those who followed Harvey to read the lessons in his spirit. But, strange to say no such disciple appeared, and it was left for our own John Hunter upwards of a century and a half later in time, to follow in the track which Harvey had prepared, and to light a lamp which illuminated every branch of natural history and biology, which has helped succeeding generations to reach our present proud position of increasing knowledge, and which will continue to burn as an illuminating force so long as the human intellect is capable of employment.

PART III

HUNTER AS A SURGEON

Time tells me however that I must hurry on for I want before I conclude briefly to place before you the claims of John Hunter as a surgeon, as a physician, as a contributor to medical science considered as a whole, for, to his mind, what we now call medicine and surgery were inseparable, since both branches of knowledge are governed by identical laws, and the pathology of one branch is the pathology of the other. But first of all, let me assert the fact and mention it as one of Hunter’s special merits for which our profession will to him for ever be indebted—that he raised it out of the position of a poor art, based on empirical knowledge and practised too much as a trade, to establish it firmly as a high and elevating science, at the same time raising its practitioners in the social scale, and in saying this I would have it known that he did as much for medicine as for surgery, and that the physician may claim him as much as the surgeon as his own. He made our profession scientific by basing it upon the widest knowledge of the structure and functions of all living things, and by so systematising the facts which had been gathered by past experience and his own unweaned industry as to deduce from them, by his searching and luminous intellect, laws and principles for the guidance of future generations in their study and treatment of disease in any of its forms. If Hunter had come into this world for no other purpose than this he would not have lived in vain, he would have been worthy of the thanks of civilised mankind. In his teaching therefore, little else is to be found than the application of the great principles of our science to the treatment of disease and injury. “The principles of disease,” he said, “which become the object of surgery have not been sufficiently attended to, and these are what I shall chiefly consider.” As soon therefore as he proceeds to consider “the disturbances which nature works and of her cures,” he lays down the great physiological principle of *natural repair*, and states in pithy language “That all parts are capable of being restored in their kind.” “When loss of substance happens in any part, and that loss is to be restored, the parts which restore the loss or which regenerate the substance for that purpose preserve the

same disposition with which they were at first formed, the original disposition being ready to act when called upon.” The process of restoration in his mind being similar to that of formation, it is therefore to be regarded as a natural process, “for,” adds Hunter, “a sore that is going through all its natural stages to a cure cannot be called a disease.” The different processes of natural physiological repair occupied much of Hunter’s attention, and his investigations into the nature of the blood, its life and its influence on the nourishment of the system and on repair are not the least interesting portions of his work. But in this assembly of Hunterian disciples and in these days when his views are insisted upon by most surgeons there is no necessity to dwell upon them at any length, indeed, had they not been too much mixed up by Hunter with the pathological subject of inflammation, I should probably have passed them by with a brief notice. But I want on the present occasion to emphasise a fact which he himself recognised but did not make sufficiently clear, that *repair in all its forms is effected without inflammation*. That he saw this and more cannot be disputed, for I shall be able to demonstrate the truth of the assertion out of his own words, and also be able to show that he entertained the opinion that in a case of injury where inflammation takes place repair is interfered with, if not arrested. Why he in his writings failed to make these views sufficiently clear was doubtless owing to his want of knowledge as to the true causes of inflammation and I trust I may be pardoned if I assume that had he known what we now know of the effects of micro-organisms upon wounds and in the blood current he would have readily accepted the views which we now accept, that inflammation is an infective process brought about entirely by micro-organisms introduced from without and that, instead of helping it either retards or arrests repair. Under these circumstances Hunter would have been ready to adopt the view which must ere long be generally accepted and consequently taught that repair and inflammation are not only not identical, but incompatible, that repair is a *constructive* physiological process and resembles closely that of development and growth, that inflammation is a *destructive* pathological process, and is entirely due to the presence of micro-organisms introduced from without, that when inflammation attacks a wound in the process of repair it at first checks repair and later on brings about disorganising changes, and when a part repairs after it has been the seat of inflammation it does so only when the inflammatory process has been arrested.

Under these circumstances in the treatment of every wound inflammation is always to be guarded against and when present subdued since it invariably acts as a disturbing influence in the process of repair. These remarks apply as much to the healing of a wound by “quick union,” or Hunter’s “first intention,” as to one which heals by the “process of granulation or Hunter’s second intention,” or to one by “scabbing” and, I ought to add, to the restoration of any part that is undergoing repair, and which has been the seat of the inflammatory process. In support of this view I should like to quote the words of Karl Roser of Marburg, an author who has well written upon this side of my subject, and who is likely to be listened to as a German professor. “The clean, not infected, wound heals without inflammation by first intention, the infected wound, on the contrary, heals by second intention with the appearances of inflammation. In the first case healing follows immediately after the injury. In the other case inflammation intervenes between injury and healing as a disturbing complication.”

These views of repair and the influence of inflammation on the reparative process which I have just formulated, and many of which I have taught for years² are, I maintain

Hunterian”, and, if Hunter had enjoyed the opportunities we have had of learning the true cause of inflammation from the works of Pasteur and Lister, I have not a shadow of a doubt that he would have accepted the conclusions as they have been presented to you. How far he approached our present views I will now proceed to demonstrate, and I shall do so, using his own words. As a leading quotation I will select one which not only embodies the whole principle of subcutaneous surgery of which Hunter was the distinguished founder, but shows that if he had had an inkling of the true causes of inflammation how near to our present conclusions on repair and inflammation his would have been. Indeed, if we accept his sayings “that air will be injurious to man and animals by

² Buckle, History of Civilisation, vol. II., p. 567

⁴ Entzündung und Heilung 1886 Leipzig
“Practice of Surgery”

(the science which investigates the laws of disease), the causes which determine any departure from the normal type, whether of form or function, and the means which nature adopts for the healing of wounds and the repair of injuries. It was in order to understand these processes, and to search out the laws by which they were governed, that Hunter recognised the necessity of first investigating the structure of the living body, with the functions of every organ in a state of health, for he held that physiology was as essential to explain pathology as it was to explain the healthy actions of every day life. But he saw further, for, in order to understand in man the structure of his organs and their functions, he realised the wisdom of first examining the structure and vital processes of identical organs throughout the whole animal kingdom from its lower up to its higher grades. He appreciated to the full the force of Bacon's dictum, "That no natural phenomenon can be adequately studied in itself alone, but to be understood must be considered as it stands connected with all nature," or, to use Hunter's own words, "Nothing in nature stands alone, every art and science has a relation to some other art or science, and it requires a knowledge of these others, as far as this connexion takes place, to enable us to become perfect in that which engages our particular attention." If we look to Hunter's biological researches and review his conclusions, we find them very clear. He first took life as a subject, and came to the conclusion that, although "the man, the oak, and the mountain are but different modifications of the same elementary matter," "mere composition of matter does not give life for the dead body has all the composition it ever had," "that life never can arise out of, or depend on, organisation, but that organisation arises from and depends on life, and is the condition of vital action." "Life is a power superadded to matter, and is a property we do not understand, we can only see the necessary steps to it."

A seed put into a moist ground grows, but the moist ground is only a necessary attendant and not the immediate cause. The life of the seed stimulated to action by the moisture is the immediate cause of its growth. All the water in the world would not make a dead seed grow. "The same power that exists in the seed is in the egg." "The first and most simple idea of life is its being the principle of self-preservation, preventing matter from falling into dissolution, for dissolution immediately takes place when matter is deprived of life. The second idea of life is its being the principal cause of all action." "No part of the body is to be considered as a complete living substance producing and continuing mere life without the blood, so that makes one part of the compound without which life would neither begin nor be continued." "Every individual particle of animal matter is possessed of life, and the least imaginable part which we can separate is as much alive as the whole." "Blood is not only alive itself but is the support of life in every part of the body." "This living principle in the blood is in its effects similar to the living principle in the solids, it owes its existence to the same matter which belongs to the other, and is the *materia vita diffusa* of which every part of an animal has its portion, it is as it were, diffused through the whole solids and fluids, making a necessary constituent part of them, and forming with them a perfect whole." "The *materia vita* keeps up the harmony between the blood and the solids." "Mere organisation can do nothing, even in mechanics it must still have something corresponding to a living principle—namely, some power."

Hunter recognised that the chemistry of the laboratory and of inorganic bodies dealt with the same elementary substances as those of life, but he likewise recognised that the combinations of these same elements in the inorganic world differed widely from those worked up in the majesty of silence in the life department of nature's works. He proved that the life of the flesh was in the blood. And it is interesting to note how, in all his investigations into the methods which nature adopts for preserving life, he had always before him the still unsolved problem which lies behind, as to how and where the food that man takes to maintain life becomes alive, becomes, as he expressed it, animalised and vivified, for, as he said, "from living matter only living parts can be made." He was always asking himself such questions as: Does life begin after digestion in the chyle? Is the chyle alive before or after it mixes with the blood? What are the effects of respiration on the life of the blood? Indeed, I do not think that I shall be far wrong when I state my belief that it was to Hunter's attempt to solve these

and allied problems that we are indebted for the museum in the centre of which we now stand, and for the great physiological principles bearing upon the economy of life, for which all biologists and pathologists must be for ever grateful. But he was not content to trace life only in animals that move, he searched further, for "I had long suspected," he wrote, "that the principle of life was not wholly confined to animals or animal substance endowed with visible organisation and spontaneous motion, but supposed that the same principle might exist in animal substances devoid of apparent organisation and motion when the power of preservation was simply required." "I was led to this opinion," he added "in 1757, about twenty years ago, when busied in making drawings of the growth of the chick in the process of incubation. I then observed that when an egg was hatched the yolk (which is not diminished in the time of incubation) was always perfectly sweet to the very last, and that the part of the albumen which had not been expended on the growth of the animal some days before hatching was also perfectly sweet, although both were kept at a heat of 103° in the hen's egg for three weeks and in the duck's egg for four, but I observed that if an egg was not hatched that egg became putrid in nearly the same time with any other dead animal matter." This experiment suggested that eggs possessed a living principle.

To determine from other tests how far this suggestion was true, Hunter made the following experiment. "After having placed an egg in a cold mixture about zero till it froze, he allowed it to thaw, by which process it was to be supposed the preserving powers of the egg must be destroyed. He then put this egg back into the cold mixture, and with it one newly laid, and found the difference in freezing was seven minutes and a half, the fresh one so much longer time resisting the powers of cold. Again, a fresh egg, and one that had been frozen and thawed, was put into a cold mixture at 15°. The thawed one soon came to 32° and began to swell and congel the fresh one sank to 29.5°, and in twenty five minutes later than the dead one it rose to 32° and began to swell and freeze." From these experiments Hunter concluded that: fresh egg has the power of resisting heat, cold and putrefaction in a degree equal to many of the more imperfect animals, and it is more than probable this power arises from the same principle in both—"the principle of life." These experiments appear to me so simple and interesting that have been induced to bring them under your notice, for question whether, before or since, eggs have been used for more lofty purposes, and I think the conclusions which Hunter drew from his experiment are to be accepted. The tend, however, to support another principle which was dear to the mind of Hunter, and which should ever be before us as practical surgeons, and that is "the antiseptic power of life." He, however, went even beyond this for he believed that "no changes wrought in animal or vegetable bodies can possibly arise from fermentation, for the presence of life resists fermentation, and no body, while retaining its life, can possibly be acted upon by fermentation—which can only take place after the destruction of life, which is the preserving principle." Again, he demonstrated the truth that organised creation had been formed on a single plan or type, which may be traced throughout the whole animal world, and that the lower animals represent permanently the successive stages through which higher animals pass until they have attained their full and perfect development. Thus he reduced organisation to one type as he had reduced life to a single principle. But he saw further, for it seems far from his writings to infer his belief that in the gradual evolution of this type through the animal creation the idea which controlled the developmental force throughout its innumerable stages must have been pre-existent, since the idea, by virtue of which the thing made has its form and function and life, must have existed before it was revealed in its material form. He saw, with Cuvier, that the animals and plants of all periods are but different emanations from the same great thought. Hunter, however, did even more than this, for he laid it down as a law that "every deviation from that original form and structure which gives the distinguishing character to the productions of nature may not improperly be called monstrous." According to this conception of the term the variety of monsters will be almost infinite, and as far as my knowledge has extended," said Hunter, "there is not a species of animals, nay, there is not a single part of an animal body, which is not subject to an extraordinary formation. Neither does this appear a matter of chance, for it may be observed that every species has its disposition to deviate

o his observations on fossils for they are gentle to his credit as an honest thinker. Travers first brought the question alive before this College in his oration for 1838, when he showed how Hunter had pointed out the evidence which fossils afford of the alteration of the condition of the earth's surface, as dry land submerged, and by frequent allusions to the many thousand years which must have elapsed whilst the earth was the theatre of these changes he seems to have fully appreciated the necessity of an ample allowance of past time to account philosophically for the changes in question. Mr Clift, who transcribed Hunter's paper, told Mr Travers that it was originally dictated, not "many thousand years," but "many thousand centuries" and he (Clift) had the copy of the letter of the friend of Hunter (the late Major Rennell) who advised the change of expression in conformity with the popular notion of the world's age and the religious prejudices of the period.

With these references to Hunter as a geologist, biologist, physiologist, pathologist and surgeon I must bring my lecture to a close, and in doing so express a hope that we may continue in all gratitude to be inspired with the memory of John Hunter, and, as heretofore, periodically raise our voices in his honour although it may be said with truth that in the works of all who have followed his footsteps and studied in his spirit he yet speaketh. Let this Royal College of Surgeons of England which placed a tablet over the grave of John Hunter in Westminster Abbey, continue to repeat the record there engraved of their admiration of his genius as a gifted interpreter of the divine power and wisdom that works in the laws of organic life, and their grateful veneration for services to mankind as the father of scientific surgery. The harvest which has already been reaped from the good seed which was sown by Hunter has been unvalued, and the seed must be as fruitful in the future as in the past if the fields are rightly tilled by his followers. Should, however, the seed be choked or hidden for a time by weeds which have been sown by either the promoters of a passing fashion the advocates of some taking and possibly erroneous theory, or of rank empiricism, Hunter's seed, if rightly nurtured like mummy seeds when watered, will spring up with renewed vigour, to enlighten those who seek light, for it possesses a germinal principle of life which guarantees vitality.

An Address

ON THE

ANTISEPTIC MANAGEMENT OF WOUNDS.

*Delivered at King's College Hospital in the London
Post Graduate Course, Jan 18th, 1893,*

By SIR JOSEPH LISTER, BART, F.R.S.,
SURGEON EXTRAORDINARY TO THE QUEEN

(Concluded from p. 25*)

AN external antiseptic dressing, to be ideally perfect, should have four essential qualities. It should contain some thoroughly trustworthy antiseptic ingredient, it should have that substance so stored up that it cannot be dissipated to a dangerous degree before the dressing is changed, it should be entirely unirritating, and it should be capable of freely absorbing any blood and serum that may ooze from the wound.

The carbolic gauze which we formerly used did, indeed, contain a very efficient antiseptic, but this being volatile was perpetually flying off in spite of our endeavours to fix it, and it was a matter of uncertainty in how many days it might have so far disappeared from the dressing as to leave it untrustworthy. Carbolic acid had also this disadvantage as an element of an external dressing that, acting as we have seen, with peculiar energy on the epidermis it interfered seriously with cicatrization and we were obliged to interpose what we termed a protective to shield the healing wound from its action, and this gauze containing resin for the purpose of fixing the carbolic acid was not a very good absorber of blood and serum. Carbolic gauze, then, was not an ideally perfect dressing.

Corrosive sublimate had the advantage over carbolic acid of not being volatile, but it was readily washed out of gauze

or wool charged with it, and under some circumstances it proved very irritating. The discharge, passing from one part of the dressing to another took up more and more of the bichloride in its passage, and sometimes became so strong a solution of the salt as to cause vesication. I endeavoured to remedy these defects by combining the bichloride with the albumen of the serum of horse's blood¹, but though the sero-sublimate gauze answered its purpose, in so far that it contained the bichloride better stored up and in a less irritating form, it had inconveniences, especially as regarded its preparation, which induced me to abandon it.

The agent which we have found the most satisfactory as the antiseptic ingredient of the dressing is the double cyanide of mercury and zinc.² Cyanide of mercury, while it has powerful antiseptic properties, is very soluble and highly irritating, but the combination of cyanide of zinc with it has the same sort of effect, but in a much higher degree, as the albumen of the sero-sublimate gauze had upon the bichloride. The combination with zinc keeps the cyanide of mercury from being dissolved away, and also prevents it from irritating. It is, so to speak, chained down by the cyanide of zinc with which it is combined. The double salt is very little soluble in blood serum, requiring between two and three thousand parts to dissolve it, and thus a small quantity of it will last a long time in spite of a free flow of discharge through it. It thus fulfils the condition of persistent storage. It is at the same time practically unirritating, wounds heal under its immediate contact without the necessity for a protective layer interposed. Then as to the essential question of its antiseptic virtues. Small as is the quantity which serum dissolves, it proves amply sufficient to prevent bacteric development. Thus in one experiment some serum of horse's blood containing $\frac{1}{1000}$ part of the salt remained clear and odourless for more than a fortnight at the temperature of the body in spite of inoculation with putrid material and even $\frac{1}{1000}$ part prevented all growth for ten days. When mixed with serum and corpuscles, it prevents putrefaction in smaller quantity than any other antiseptic with which I am acquainted. The greater the amount of albuminoid substances in any solution, the more severely is the antiseptic tested, and when the red corpuscles are mingled with the serum, as is the case in the first twenty four hours after the infliction of a wound a much larger amount of the antiseptic is needed than with serum only. Thus four times more corrosive sublimate is required to prevent putrefaction in serum and corpuscles than in serum. Now, the double cyanide answers the purpose in half the quantity that is necessary with corrosive sublimate. As an illustration of the practical value of this material, I may mention a single experiment not hitherto published. I packed a piece of glass tube with gauze charged with 3 per cent. of the double salt and poured into it serum and corpuscles obtained by whipping pig's blood. I then inoculated one end of the saturated gauze with a drop of septic serum and kept it at the temperature of the body, with provision for preventing evaporation. After the lapse of five days I found the entire mass of gauze pure in odour and without bacteric development, as tested by microscopic examination of stained cover glass preparations of the contained blood. Meanwhile a piece of unprepared gauze similarly treated showed bacteric development within twenty four hours.

But here I must remind you of the essential difference, which must always be kept in view in considering antiseptic agents, between germicidal and inhibitory power; that is to say between the capability of destroying the life of microbes and that of preventing their growth while the agent remains in contact with them. These two properties are by no means similarly proportioned to each other in all antiseptics. Thus cyanide of mercury is far superior to the bichloride in inhibitory power, but very inferior to it as a germicide and the double cyanide of mercury and zinc, while admirable as an inhibitor is very feeble as a germicide so that we can have no security that materials charged with it may not contain living organisms. Hence if gauze charged with the double cyanide were applied dry to a wound the time might come when, if the discharge were free, the salt in spite of its slight solubility might be

¹ THE LANCET, Oct. 25th, 1883.

² This is a double salt of a very peculiar constitution. It has been specially investigated by Professor Dunstan who concludes that it has the following formula $42\text{ZnCy}_2 \cdot \text{HgCy}_2$. See Trans. Chem. Soc. 1892, p. 622. The best way of preparing it was described by Professor Dunstan in the Pharmaceutical Journal Third Series, vol. xx., No. 65.

its containing specific particles of contagion" and "that any cause that can obstruct the motion of the blood in the smaller vessels for a certain time will irritate and produce inflammation," we might fairly infer that such knowledge of inflammation and its causes was not far off. At any rate, with the knowledge he possessed he came to the following conclusions "Mechanical injuries on sound parts may be divided into two heads first, those which do not communicate externally with the air, and secondly, those which do. The effects of the first division—which do not communicate externally—on the constitution will differ according to the state of the constitution and the nature of the parts injured, if the power of healing in a part be strong, the part injured not vital, and the constitution not highly disposed to sympathy, *no material change* will take place in the constitution and the process of restoration will go on with only local effects." "Wounds which do communicate externally with the air commonly both inflame and suppurate." "The latter, when properly treated, may be brought back to a resemblance of the former, and so unite by primary healing or the first intention, by which inflammation and suppuration are prevented." "Primary healing takes its course without inflammation and is painless." "Wounds that are kept exposed do not granulate till inflammation is over." "In simple fractures union will take place independent of inflammation." "The absorption of blood when extravasated and the healing beneath the scab are both regarded as primary healing." In Hunter's recommendations as to the treatment of wounds the same general principles seem to be recognised, for he writes "In the treatment of wounds, in order to facilitate the *natural process of healing*, little is to be done except removing impediments to the natural cure." He saw with the eye of the physiologist what the eye of the poet-dramatist had previously described—

"Let nature use her own maternal means,
And we await to second, not disturb her

With these apt quotations from Hunter's own writings and lectures, there can be no doubt as to his opinions that repair and inflammation are not only not analogous processes, but that they are antagonistic, although from his want of knowledge as to the true cause of inflammation he had mixed the two processes together, and consequently had failed to make his opinions clear. It is to Hunter, therefore, more than to any man, that we are indebted for the recognition of *'of nature's resources in the cure of disease'* "He saw," wrote one of our latest departed friends, Le Gros Clark, "that nature was not to be regarded as an enemy to be combated, but as a friend with whom we may take counsel and whose efforts it is our duty to watch and assist rather than to thwart and obstruct." It is also owing to the information he laid before us in his great physiological doctrines of repair that our present knowledge of the treatment of wounds by "rest" is unquestionably based. "The first and great requisite for the restoration of the injured parts is rest, as it allows that action which is necessary for repair of injured parts to go on without interruption, and as injuries often excite more action than is required rest becomes still more necessary." "In sprains of joints," he said, "rest is the first principle." "In diseases of joints rest cannot be too much insisted on." "In the treatment of fractures the rest of the bone is the great object we have to aim at. The limb, if possible, should never be moved." "A horizontal position, with temperance, should be the first thing advised in the cure of sore legs." Hunter saw also that rest from action is an element to appreciate even in disease, for he maintained "that everything in nature that has power of action has two kinds of motion, exerted nately, and a state of rest." He saw, however further still, and said that "life cannot go on always in the same state. It must have its stated seasons of rest and action. Hence, even in the most continued diseases, and when the cause is unvaried, there will be intervals of alleviation and exacerbation." "Nature," he adds, "observing her general law, rests even in disease."

These are the great principles of practice which John Hunter laid down for our guidance and the benefit of suffering humanity. They are so intimately associated with our own daily duties that it is well for us, perhaps to be occasionally reminded as to whom we are indebted for them. The same remarks are likewise applicable to some other points of practice, for Hunter's acts were in many ways far in advance of his contemporaries. I have but time to bring

a few of them before you. In making a diagnosis of disease with the view of treatment, he advised that the history of everything relative to the disease should be known, and symptoms alone are often not enough to direct us. We should therefore get the history of it and of prior diseases, of peculiarities of constitution, manner of living, and even inquire into the temper and mind of the patient. In his investigations and treatment of disease he must often have thought, if he had not expressed the thought in words, what has been well said by a modern thinker, my friend Dr. Prentiss Smith, "that morbid processes are strictly physiological and that the origin and condition of diseases and of death must be sought by the same methods as the origin and condition of health and life." Hunter's remarks on hereditary dispositions are particularly good. "It very rarely happens that a constitution is perfectly free from a tendency to some disease. The basis of diseases is frequently laid by accident, not by producing them immediately or naturally, but by exciting some susceptibility of the constitution, or of a part into a disposition for a disease which may be latent. Disease is not hereditary, it is only the susceptibility which is so, the cause is necessary to bring it into action. It may," he adds, "be hereditary for a man to be irritable and passionate, but he will not go into a passion without some accidental cause. In some the susceptibility to a disease is very strong, then it requires only a very slight cause to bring it into action. There must, however, always be an immediate cause to stimulate the susceptibility into action." In the treatment of disease by stimulants he was very cautious. "Wine," he said, "does harm if it increases the action of the machine without giving strength, a thing carefully to be avoided. However, I have not yet made up my mind about wine." "Wine," he adds in another place, "does harm in hectic cases, increasing circulation, calling up action without strengthening, but I am not quite determined on this point. I drink no wine myself and seldom recommend it to others." I hope the total abstainers will use this information with discretion! "Women," he adds, "live a much more temperate life than men, which certainly must have considerable influence, both with regard to resisting and curing diseases." In practical surgery many most important improvements must be attributed to Hunter. For his improved treatment of aneurysm enough has been said. Stanley stamped it "as the fairest of the fruits of Hunter's genius," and yet Hunter never wrote one line to recommend the operation. The first account of the operation was given by Home in a paper published in 1793 in the first volume of the *Transactions of the Society for the Improvement of Medical and Chirurgical Knowledge*, and probably during Hunter's lifetime, but in 1786, a year after his operation, Hunter said "In December, 1785, I performed the operation in a manner different from that usually practised, and with success. The particulars are found in the *London Medical Journal*. I would only observe that in future I would advise only tying the artery in one part, and not to endeavour to unite the wound by the first intention." For many others he has never had credit, and amongst them I must place his views upon the important question of operation for cancer. "I consider," said Hunter, "that the bad success arising from amputation of the breast for cancer arose from not taking away enough. I resolved to take away much more than seemed necessary. The surgeons round me thought that I did more than what was necessary." "Perhaps it would be best always to remove the whole breast when there appears much disease, or even when the disease is not very extensive." "Whenever a gland appears tumid or indurated in the neighbourhood of a cancer, the whole that appears diseased should be removed. *Unless the whole of the diseased part can be removed* the operation for cancer will avail but little. This always should be kept in view. An inattention to these circumstances has in my opinion brought the operation into disgrace and caused people to suppose the disease to be a constitutional one." Hunter evidently regarded cancer as a local disease and advocated the practice, now generally adopted, of a free removal of the local tumour with the removal of all diseased glands. He advised "that varicose veins should be dissected out where this can conveniently be done," and for the eradication of hydrophobia he said, "mad dogs are chiefly in England. I really think that every dog here should be killed and new ones bought, or that they should perform quarantine."

To conclude my references to Hunter's works I must refer

enough of the 1 in 20 carbolic lotion to make a sort of soft mud or cream which may be applied with a camel's hair brush to parts where there is very little space between the wound and some source of septic contamination. I have by this means been repeatedly able to avoid suppuration in the vicinity of the anus as Lotherwise might have failed to do. The store of the antiseptic salt upon the skin prevents the microbes from working their way into the wound under the narrow strip of dressing alone available. There are also situations such as the pubes, where the cyanide cream applied to the hairs converts them with great advantage into a part of the antiseptic dressing.

It may be asked how it was that I obtained uniformly good results when I used corrosive sublimate solution for the purpose of producing a germicidal effect upon the gauze. For I do not exaggerate when I say that during nearly two years in which I followed this practice I did not meet with a septic failure, when I had an unbroken skin to deal with and a fair field around for the dressing. This success was no doubt partly due to the slight solubility of the double salt preventing it from being washed out of the deeper parts of the gauze. But I attribute it also to another circumstance. I invariably washed a substantial mass of the gauze which was to be applied next the wound in 1 in 20 carbolic lotion, in order to get rid of the irritating bichloride which it contained. I thus, though unintentionally, effectually sterilised not only this portion of the gauze but also neighbouring parts into which the redundant carbolic liquid soaked. And this mode of procedure, though not so perfect as the systematic moistening of the entire mass is a rough and ready way of attaining much the same result.

In changing the dressings we make it an invariable rule to cover the wound with something reliably antiseptic before washing surrounding impure parts, so as to avoid the chance of defiling the wound with them. For these washings I use the 1 in 40 carbolic lotion. As to the times for changing the dressings, it is no doubt true that that which is applied immediately after the operation might in most cases be left untouched for several days. Nevertheless when discharge is free, I prefer as a rule to remove the first dressing when the first twenty-four hours have passed. We thus get rid of the serum and corpuscles which, while they constitute the largest amount of discharge which occurs in the case, test as we have seen, the antiseptic dressings the most severely. The discharge being still moist near the wound at this period the gauze is lifted from it without disturbing it in the slightest degree, and I never knew a patient fail to express himself as feeling more comfortable when the first dressing had been changed. There are, however, special cases like a stump after amputation of the thigh, where an exception may be made on account of the disturbance of the wound that the changing of the dressing would involve.

In conclusion, I may remark that it pleases me, as the years pass, to see the hope which I expressed at the International Congress in London eleven years ago in course of fulfilment—namely, that the use of the antiseptic system would gradually spread by leavening action throughout the world. At the same time I am sorry sometimes to observe that unnecessary trouble is often taken in some directions whilst essential points are disregarded in others, so that with the best intentions the best results are not always obtained. I venture to hope that this address may be of some use to you in directing your attention to the essential conditions of success.

FRENCH HOSPITAL AND DISPENSARY—The twenty-fifth annual dinner in aid of the funds of this Institution took place at the Hôtel Métropole on Saturday last. His Excellency the French Ambassador in the chair supported by the Lord Mayor and numerous representatives of the Corps Diplomatique. The chairman alluding to the fact that he was presiding for the tenth consecutive year, announced that he had resigned the post of Ambassador and was shortly about to return to France but he assured them of his continued support of an institution which was in every respect worthy of their country. The annual report was read by the honorary secretary, Mr Ernest Ruffer, who expressed the regret felt by the governing body of the hospital and by the French colony generally at M. Waddington's approaching departure. He pointed out the extraordinary development of the charity during the last ten years, and congratulated its supporters on its steadily increasing sphere of usefulness. He concluded by an allusion to the valuable services rendered by the secretary M. Fernand Sorel, in promoting the success of the Institution. The musical arrangements were carried out in the most satisfactory manner by M. Tito Matteo.

Clinical Lecture

OR

SYMPHYSIOTOMY AT THE CLINIQUE BAUDELOCQUE DURING 1892

Delivered on Dec 7th, 1892,

By A. PINARD,

PROFESSOR AT THE OBSTETRICAL CLINIQUE OF THE FACULTY OF
MEDICINE, PARIS. MEMBER OF THE ACADEMY OF MEDICINE.

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By J. B. HENDERSON, M.D. BRUX., L.R.C.P. & S. EDIN.

GENTLEMEN,—A year ago, on Dec 7th, 1891, I began a lecture in this amphitheatre in the following way: "At the present time, when we find ourselves in the presence of a woman in labour having a contracted pelvis, and when we have proved either by measurement and palpation alone or by the ineffectual application of forceps the impossibility of the expulsion or the extraction of the foetus by the natural way we are reduced to choosing in order that the woman may be delivered, between the two following methods. Either to destroy the head and so terminate the delivery by natural means, or to perform Cæsarean section." And after having calculated the results obtained by the partisans of the one method and the other I continued as follows: "Thus even to-day, in spite of the considerable progress realised during fifteen years, in the presence of a case such as I have already described, we are reduced either to perform an operation which may save the mother as it certainly kills the child or to practise one which may save the child while endangering the life of the mother. Shall we always have to face this cruel alternative? Shall we be much longer condemned to the agony which one must endure in order to know what it is either to kill a healthy foetus or to make the mother run the risks (which are still formidable) of the Cæsarean section? 'I hope not,' I said. I believe that this fatality may disappear thanks to an operation—symphysiotomy—inaugurated in 1768 by one of our compatriots, a student in surgery named Sigault and practised by him for the first time with success in 1777 on the wife of a soldier named Souchoit. I can understand that this astonishes you, and you doubtless ask why to-day I place such great hopes on the revival of an operation which some of you know has been neglected for so long a time and of which some of you scarcely know the name." I then gave my reasons for thinking and speaking so, which are nothing more than the solution of the following three questions: 1. Can one by symphysiotomy obtain, without any grave lesion, a notable enlargement of the pelvis? What can be the extent of this enlargement? 2. Is symphysiotomy within reach of all accoucheurs and how ought it to be practised? 3. What are the sequelæ of the operation as regards consolidation of the pelvis, while standing and walking and in subsequent pregnancies? I ended by saying: "If I am not mistaken symphysiotomy, which had the misfortune to be suggested by a man without authority in obstetrics, by trusting in antiseptics, with the greater information which we now possess on contractions of the pelvis, guided by the sureness of our means of exploration and profiting by the perfection of our methods of operation, will become, as M. Tarnier has predicted, the complement of many cases of premature delivery and will be substituted for embryotomy and Cæsarean section in many other cases, only leaving for the latter a very restricted field where they may reign without rival."

Well, gentlemen, I wish to enquire with you whether during the year which has just passed since I spoke these words, my hopes have been deceived or realised. The moment has come for us to draw up our balance sheet and see what exactly has happened as regards symphysiotomy at the Clinique Baudelocque during the year 1892. First, it is with a satisfaction I do not attempt to conceal that I am able to say that in 1800 cases of delivery during the year I have not once had to practise embryotomy on a living foetus. Still, we have had to struggle with a considerable number of cases of contracted pelvis. In all the cases we have only performed conservative operations. I only wish to speak to-day, however, of the cases of symphysiotomy, to show them to you and to let you

all washed out of the deepest parts of the dressing, and as soon as this should be the case, living microbes contained in it would be free to develop towards the wound. In order to guard against this risk we treat the gauze before using it with a reliable germicide. That which we now use for the purpose is the 1 in 20 solution of carbolic acid, which, besides being thoroughly effective, has the further advantage that it soon flies off from the dressing and leaves nothing in contact with the wound but the unrritating double cyanide and cotton fabric.

And now I wish to correct a mistake I made in a former publication. For the purpose of destroying any microbes that there might be in the gauze I recommended a solution of corrosive sublimate 1 in 4000. Now we have seen that the 1 in 4000 sublimate lotion is not nearly so powerful as a germicide as we then supposed. But it further appears that such power as it possesses is almost entirely lost as soon as the bichloride comes in contact with the cyanide of mercury and zinc, when a curious soluble triple compound³ is formed, which has extremely slight germicidal action⁴. The triple salt seems also to be highly irritating, and thus when we used the bichloride of mercury, we failed almost entirely to obtain the object for which we employed it, and at the same time lost some of the goodness of the double cyanide, part of which was washed out in the process, while the resulting solution might cause troublesome irritation. Soon after I first described this dressing a surgeon at one of our hospitals came to me and said he had been using it and found great inconvenience from it. He had applied it to a scalp wound, and the whole of the skin covered by the dressing was excoriated. I found he had applied it soaking wet with bichloride lotion, and we are now able to understand the irritation which resulted.

It is quite unnecessary to have the gauze wet with the 1 in 20 carbolic lotion, mere dampness is sufficient. It may be conveniently moistened as follows. The gauze is commonly sold in pieces of three or six yards, folded lengthwise in eight layers. These are unrolled and half the number to be moistened are sprinkled roughly with the lotion. The wet and dry pieces are then superposed alternately and the whole rolled firmly together, and in a few minutes the entire mass will be uniformly damp. This may be done by a nurse, who then folds the gauze up in a piece of mackintosh cloth to prevent evaporation, and if the precaution is taken of turning over the edge of the jaconet so as to prevent the cotton from coming in contact with the gauze, and abstracting moisture by capillary attraction, it will remain damp for weeks together. Used in this way the double cyanide gauze may be absolutely trusted for excluding mischievous microbes, and we have seen that it contains the antiseptic element excellently stored up and that it does not irritate, and when I add that it is all that can be desired in absorbing power you will see that it approaches very closely to our ideal. Having now employed it constantly for over four years, both in hospital and in private practice, with thoroughly satisfactory results, I feel entire confidence in recommending it to you.

Here is a sample of the gauze ready for use. It is you observe, of mauve colour whereas the pure cyanide of mercury and zinc is a white impalpable powder. I have fully explained elsewhere the reasons for using a dye,⁵ but I may here shortly recapitulate them. When the pure salt is diffused in water and a piece of gauze is charged by drawing it through the liquid and dried it is found that the powder dusts out of the gauze on the slightest touch and irritates the nostrils extremely. I first remedied this defect by means of starch, and having observed that starch in solution in water becomes attached to the particles of the double salt and completely precipitated with it, it occurred to me that perhaps some colouring matter might behave in the same manner as the starch, and that thus it might be possible to dye the colourless salt and so have the means of judging, by the tint of the gauze charged with it, whether or not it was uniformly distributed in the fabric. I found on trial that various dyes did indeed behave as I hoped including colouring matters so different as Prussian blue, logwood and various aniline dyes. But, what I had not at all anticipated, it turned out that in the case of some of these dyes, when the coloured precipitate was diffused in water and the gauze was drawn through the mixture and dried without the use of

any starch, the objectionable dusting was avoided. The particles of dye, though in extremely small proportion to those of the salt, attached them, as it would appear, to the fabric.

When I last published on the subject,⁶ I recommended hæmatoxylin for this purpose. But I have since ascertained that the effect is produced still more satisfactorily by an aniline dye, the hydrochlorate of mauveine, known in commerce by the name of purified rosoline.⁷ I have here a sample of the mauve-coloured powder, the dyed cyanide. For charging gauze it is diffused with pestle and mortar in 1 in 20 solution of carbolic acid in the proportion of about thirty grains to a pint, and the gauze, which must be of thoroughly absorbent quality, is drawn, in a thickness of about eight layers, through the liquid, which is conveniently placed in a trough having a bar near its lower part, beneath which the gauze is made to pass, care being taken that the liquid is kept perpetually stirred to prevent precipitation of the salt. The gauze is then hung up to dry at the temperature of the air. The carbolic lotion is used in preference to water, both because the powder is very much more easily diffused in it and because it is desirable that any dirty material which the gauze may happen to contain may be sterilised. A very cheap kind of carbolic acid will answer, and the solution that drains from the gauze when it is hung up may be used again for the same purpose. It thus scarcely adds to the expense of the preparation.

This is a very simple process. For a whole year I prepared my own gauze, for use in hospital as well as in private practice, before I had satisfied myself completely as to its value. For hospital use I would advise that the gauze should be prepared in the institution, so as to save the manufacturer's charges. In that case it may be taken down and wrapped in mackintosh when only partly dry, avoiding the trouble to the nurses in moistening it.

Gauze may also be easily charged at a few minutes' notice for emergency in private practice. I have here a six yard piece of unprepared absorbent gauze folded lengthwise in eight layers. I soak this thoroughly with 1 in 20 carbolic lotion, and dust some of the powder roughly over one surface with a pepper box. I then roll it together, and kneading it for a minute or two with the fingers produce, as you see, a sufficiently uniform diffusion of the salt throughout the mass, as indicated by the colour.⁸ If this were done by a nurse before the commencement of an operation, and the wet gauze were wrapped in a folded sheet to absorb redundant moisture, it would be ready for use when required. A six yard piece would be an ample dressing for many cases. Now I see by the amount that has gone from the pepper box that not more than one fifth of an ounce has been used, and as the dyed cyanide is supplied at 20s. per pound, this implies a cost of only 3d., so that it cannot be regarded as expensive.⁹ If you have no absorbent gauze at your disposal, linen rags, which are excellent in absorbing quality, may be quite well charged in a similar manner. This old towel which has been so prepared, if folded a few times, would make a perfectly satisfactory dressing. Bandages which it is desirable to render efficiently antiseptic, such as one that is to be applied next the skin for keeping down the soft parts in a stump after amputation of the thigh, may be charged on the same principle.

When a free discharge is anticipated, we apply a piece of thin mackintosh, sponged with carbolic lotion, over the exterior of the dressing, to prevent the blood and serum from passing directly through it. Thus arrangement no doubt interferes somewhat with the inspiration of the discharges by evaporation, but this is a matter of indifference when the dressings are efficiently antiseptic.

There is another use to which the dyed cyanide powder may be often advantageously put—namely, treating it with

⁶ *Ido loc. cit.*

⁷ This dye may be obtained from Messrs. Meister, Lucius and Brühl of Hoechst-on-Main. I may here publicly express my thanks to Mr. Perkin to whom the world is indebted for the aniline dyes, for his kindness in ascertaining for me the chemical composition of rosoline. It is used in quantity equal to 1 per cent. of the weight of the double cyanide and is applied in water solution in which the salt, after being freed from excess of cyanide of mercury by repeated washing, but before it has been dried is thoroughly diffused by stirring. The salt as it precipitates carries the dye down with it and is afterwards dried at a moderate temperature.

⁸ A pair of leather gloves may be worn to avoid staining of the hands, or the dye may be washed from the fingers with spirit of wine.

⁹ I found on weighing this piece of gauze when it was dry that it was quite needlessly heavily charged containing 7 per cent. of the salt instead of 3 per cent. which is that ordinarily used. Thus the salt required for such a dressing does not really cost 14d.

³ See Varet, Comptes Rendus 1883, vol. civ. p. 1080

⁴ For the determination of this fact I am indebted to my colleague Professor Crookshank.

⁵ THE LANCET, Jan 4th 1890

mental, 15.4 cm., occipito-frontal, 11.1 cm., sub-occipito-bregmatic, 9.3 cm., sub-occipito-frontal, 9.8 cm., biparietal, 8.2 cm., bitemporal, 7.5 cm. The child was born in a state of apparent death, but revived in two minutes without insufflation. He appeared feeble. He was placed in an incubator at 35 C (95 F). Breathing oppressed all day. On Mar 3rd there was cyanosis. He did not suck, but took and kept down milk which was given with a spoon. On Mar 4th he was in the same condition, the respiration was accelerated, the cyanosis persisted, and milk was rejected. He died on the 5th at 6 A.M. At the necropsy at 6 P.M. the weight was 1950 grm. (over 4 lb.) all the viscera appeared healthy, no fracture or fissure, Wormian bones. Puerperal condition pathological, abscess of left labium majus incised and drained on the seventeenth day, without any connexion with the operation wound, which united by first intention. The patient rose on the twenty-sixth day and walked without pain. She went out on June 23rd in perfect condition. When seen on Dec. 7th no trouble in walking or micturition was observed.

CASE 5. May 29th, 1892 (Pinard) —A— aged thirty-eight, six confinements. Pelvis annular, promonto-subpubic diamer 9.3 cm. First confinement in 1835 at term, terminated by basiotomy of the living foetus after seventy-three hours of labour and an application of forceps made by M. Pinard. Weight of foetus 3520 grm. (nearly 8 lb). Second confinement in 1837 induced at seven months and a half. The child died during labour. The third confinement occurred in 1838, was induced at seven months and was terminated by an application of forceps at the entrance to the pelvis. The boy weighing 2200 grm. (nearly 5 lb) died during the night. Biparietal diamer 8.6 cm. The fourth and fifth pregnancies were miscarriages at two months and a half and three months respectively. The fourth confinement took place on Mar 29th, 1892, at the Clinique Baudelocque. Last monthly period occurred from Sept 14th to 17th, 1891. Presentation of vertex, not engaged, in left transverse position. Considering the history M. Pinard decided to wait till term and practise symphysiotomy before making any attempt at extraction. Onset of labour was induced on Mar 28th at 5 A.M. by premature rupture of the membrane—dilatation was complete on the 29th at 6 A.M. At 10.10 A.M. symphysiotomy was performed by M. Pinard (ten minutes), spontaneous separation of 2.5 cm. At 10.33 A.M. the forceps were applied in the left transverse diameter extraction being easy at 10.40 (during which the separation extended to 4.5 cm.) of a boy weighing 3110 grm. (over 6 lb) crying at once and with the following cephalic diameters: Occipito-mental, 13.2 cm., occipito-frontal, 11.5 cm., sub-occipito-bregmatic, 10 cm., sub-occipito-frontal, 10 cm., biparietal, 9.1 cm., bitemporal, 8.2 cm. The infant was suckled by the mother assisted at first by a wet nurse. He weighed when leaving the clinique, on the thirty-first day, 3350 grm. (over 9 lb). Puerperal condition normal only twice—the second and seventh day—did the temperature rise to 33 C (100.6 F). Union by first intention. The patient rose without permission on the sixteenth day but experienced no bad result. She went out on the thirty-first day in perfect condition. When seen on Dec. 7th she appeared to have no trouble in walking or micturition. Child healthy.

CASE 6. June 29th, 1892 (Pinard) —F— aged thirty-two, primipara, height 1.35 m. (4 ft. 5 in.). Pelvis generally contracted, promonto-subpubic diameter 9 cm. Last monthly period occurred from Oct. 9th to 12th, 1891. Presentation of vertex in left transverse position. On June 28th, considering the information furnished by palpation, by measurement of the promonto-subpubic diameter and by the exploration of the entire pelvis, M. Pinard decided to induce labour and to practise symphysiotomy before attempting to extract. Tarnier's bag was introduced at 10.30 A.M. on the 23rd and Champetier's bag at 5.30 A.M. on the 29th. The membranes were ruptured, dilatation complete at 9 P.M. Extraction of the bag caused a tear of the left side of the vestibule, necessitating the application of two pressure forceps. At 9.15 P.M. symphysiotomy was performed by M. Pinard (three minutes), separation 3.5 cm. At 9.24 P.M. on the application of forceps in the left transverse diameter, easy extraction was effected at 9.42 P.M. (during which the separation amounted to 6.2 cm.) of a boy weighing 2720 grm. (over 5 lb.) crying at once and with the following cephalic diameters: Occipito-mental, 13 cm., occipito-frontal, 11 cm., sub-occipito-bregmatic, 10 cm., sub-occipito-frontal, 10.3 cm., biparietal, 9.4 cm., bitemporal, 8.2 cm. Brought up by a wet-nurse, this child weighed when left on the fifteenth day 4000 grm. (8.8 lb.)

Puerperal condition normal. Union by first intention. The patient rose on the twentieth day and was able to walk without pain or difficulty. She is at present a nurse in the hospital. The child when seen on Dec. 7th was healthy.

CASE 7. July 7th, 1892 (Pinard) —A— aged twenty-three, primipara, height, 1.42 metres (4 ft. 8 in.), pelvis annular, promonto-subpubic diameter 10.4 cm., last monthly period from Sept 25th to 30th, 1891, vertex presenting in left transverse position. On July 6th, considering the information furnished by palpation M. Pinard induced labour with the aid of Tarnier's bag which was replaced on the 7th at 4 A.M. by one of Champetier's bags. Dilatation was complete at 10.15 A.M. At 10.40 A.M., after manual exploration symphysiotomy was performed by M. Pinard (seven minutes), with spontaneous separation of 1 cm. At 10.51 A.M. artificial rupture of membranes and application of forceps in left transverse position were followed by the extraction at 11.4 A.M. (during which the separation reached 5 cm.)—thanks to a second application of the forceps the former threatening to slip—of a living boy weighing 3300 grm. (over 7 lb) with the following cephalic diameters: Occipito-mental, 13 cm., occipito-frontal, 12.2 cm., sub-occipito-bregmatic, 11 cm., sub-occipito-frontal, 12 cm., biparietal, 10 cm., bitemporal, 9 cm. Brought up by a wet-nurse, this child weighed when left on Sep. 2nd 4340 grm. (about 9½ lb). Puerperal condition slightly pathological the temperature oscillating about 33.5 C (101.4 F) during the first seven days. Union by first intention. The patient rose on the twenty-fourth day and could walk without pain. When seen on Dec. 7th she had no trouble in walking or on micturition. Child healthy.

CASE 8. July 30th 1892 (Lepage) —M— aged twenty-six, two confinements, pelvis annular, promonto-subpubic diameter 9.7 cm. First confinement in 1837, at term, spontaneous of a large child, now living and healthy. Second confinement at the Clinique Baudelocque on July 30th, 1892. Last monthly period from Oct 1st to 5th 1891. Vertex presentation in left transverse position, head not engaged. When admitted on July 30th at 4.44 A.M. dilatation was nearly complete. Labour began on the 29th at 11 P.M., membranes intact. At 6.45 A.M. artificial rupture of membranes. At 7 A.M. M. Lepage reports "Dilatation complete, head very high in left transverse position, fluid green, prolapse of the cord, heart sounds dull and irregular. After an ineffectual application of the forceps (traction during twenty minutes), M. Pinard having been communicated with, M. Lepage performed symphysiotomy at 10 A.M. (thirteen minutes) the section of the symphysis was from below upwards, being followed by spontaneous separation of 26 mm. On the application of the forceps an easy extraction was effected at 10.18 A.M. (during which the separation reached 5 cm.) of a boy weighing 4000 grm. (8.8 lb). He was born apparently dead, was insufflated and revived ten minutes afterwards having the following cephalic diameters: Occipito-mental, 13.1 cm., occipito-frontal, 11.5 cm., sub-occipito-bregmatic, 9.8 cm., sub-occipito-frontal, 11.3 cm., biparietal, 9.5 cm., bitemporal, 8.7 cm. Brought up by a wet-nurse the child weighed when he left on Sept. 2nd 4090 grm. (nearly 9 lb). Puerperal condition pathological, abscess of the right labium majus incised and drained on the tenth day without any connexion with the operation wound, which united by first intention. The patient rose on the thirtieth day. Was discharged on Nov 5th in perfect condition. When seen on Dec. 7th no trouble in walking or micturition was noticed. Child healthy.

CASE 9. Sept 13th, 1892 (Varnier) —B— Two confinements. Height 1.39 metres (4 ft. 6½ in.), pelvis rachitic annular, promonto-subpubic diameter 9.2 cm. First confinement in 1889 at term terminated by basiotomy of a dead foetus. The patient was brought in on a stretcher with dilatation complete, membranes ruptured, prolapse of cord and of anterior arm, head not engaged in left transverse diameter. M. Varnier had to compress the head twice. The extraction only became possible after putting back the anterior arm and it was necessary to practise Ribemont's method to extract the trunk. Weight of the child 3350 grm. (over 7 lb). Second confinement Sept 13th, 1892, at the Clinique Baudelocque. Last monthly period Dec. 10th to 15th, 1891. The patient entered the hospital on July 26th pregnant about seven months foetus living, no fixed presentation, the head was retained below by the aid of the "entoclique" binder from Aug 15th. At this time the palpation showed that there was a disproportion. M. Pinard left for his holiday and gave M. Varnier (his assistant)

appreciate the results. Thirteen symphysiotomies have been practised in the Clinique Baudelocque during 1892—eight by myself, the rest by my assistants. I did the first on Feb 4th, the last was done on Nov 14th. I will show you the thirteen women, for they have been very willing to come back to-day. In this way you may judge of the immediate and subsequent results of symphysiotomy. I will present them in chronological order, giving with each a short *résumé* of the notes of the case.

CASE 1 Feb 4th, 1892 (Pinard) —B—, aged thirty two. She has had two confinements. The pelvis was canalculated, the promonto-subpubic diameter 9.7 cm. The first confinement took place on July 13th, 1886, at term. The presentation was of the shoulder, there was prolapse of the cord, the fœtus was dead and macerated. Embryotomy was performed. The head could only be extracted after basiotripsy. The patient went out thirty two days afterwards. The second confinement took place on Feb 3rd, 1892. The last monthly period was from May 1st to 6th, 1891. The fundus uteri was 36 cm above the upper border of the symphysis pubis. There was hydramnios, the fœtus was mobile, with a tendency to present by the breech—it appeared to be large. Mensurative palpation showed a considerable disproportion. Champetier's bag (*ballon Champetier*) was introduced at 7.30 P.M. On Feb 3rd at 12.15 (midnight) dilatation was complete and expulsion of the bag imminent. At 12.30 A.M. chloroform was given and the bag extracted, the pouch of membranes being found intact. Many unsuccessful attempts were made to bring down the head by external manipulation, the fœtus presenting by the breech in the right transverse diameter. M. Pinard then decided to extract by the feet after a preliminary symphysiotomy. At 12.50 A.M. the incision was begun, spontaneous separation after symphysiotomy of 1 cm. being effected, followed at 1.15 A.M. by artificial rupture of membranes and beginning of extraction. At 1.20 A.M. the breech was outside the vulva. At 1.24 the head was extracted by Champetier's method, the extraction being difficult, accompanied by two jerks, the latter of which was the more noticeable. The separation was not measured. Delivery was effected. At 1.45 A.M. the parts were sutured and the dressings fixed by a plaster bandage. The child weighed 3350 grm. (over 7 lb.) and measured 52 cm. It was apparently dead, but was quickly resuscitated by simple friction. There was deep depression of the right parietal bone posteriorly, so that, while the biparietal measurement was 9.8 cm, the diameter, which went from the bottom of the depression to the protuberance on the anterior portion of the parietal bone, measured only 8.9 cm. The child died on Feb 6th (third day), having presented the classical symptoms of meningeal hæmorrhage. (The head is preserved in the museum.) The puerperal condition was normal, only once on the fifth day did the temperature reach 100.6° F (38.2° C). There was union by first intention. The patient rose on the twenty first day and was able to walk without pain. There was no abnormal mobility. She was seen on Dec 7th, when there was found to be no trouble in walking or micturition.

CASE 2 Feb 22nd, 1892 (Pinard) —G—, primipara. The pelvis was flattened, the promontory accessible. The confinement took place at term. She was admitted at 9.15 P.M. on Feb 24th, the os being the size of a franc piece, the membranes were intact and tense. The fundus uteri rose to 47 cm above the upper border of the symphysis pubis. The ovum was large, there was presentation of the vertex in the left transverse diameter, not engaged. The fœtus was living. There was artificial rupture of the membranes at 10.15 P.M. on Feb 24, 400 cc of liquid escaped. Complete dilatation took place at 4.30 A.M. On the 25th the head was found to be fixed, but not engaged. At 7.30 A.M., the head not being yet engaged in spite of very good contractions, M. Lepage made a first application of the forceps under chloroform. Traction was made during fifteen minutes without result. At 8.4 A.M. a second application of the forceps was made, the tractions lasted three minutes only, no progress. M. Pinard arrived at 9.30 A.M. Chloroform having been given, symphysiotomy (nineteen minutes) was performed, giving immediately after the section and spontaneously a separation of 1 cm, which the abduction of the thighs increased without difficulty to 3 cm. There was a third application of the forceps, when extraction was extremely easy in four minutes of a boy (living) weighing 4630 grm. (over 10 lb.), measuring 53½ cm (20½ in.), of which the cephalic diameters were: Occipito mental, 14.3 cm., occipito-frontal, 12.7 cm., sub-

occipito-bregmatic, 10 cm., sub-occipito-frontal, 11.3 cm biparietal, 9.3 cm., bitemporal, 8.7 cm. During the engagement and descent of the head the separation of the pubes reached 6.1 cm. The child weighed on March 15 5970 grm. (over 13 lb.). The puerperal condition was normal only four times—viz., on the third, fifth, tenth and fourteen days—did the temperature reach 38° C (100.2° F). There was union by first intention. The patient rose on the thirty third day and was able to walk without pain, there was abnormal mobility. She was seen on Dec. 7th, when there was no trouble in walking or micturition. The child living and healthy, and at present with a nurse.

CASE 3 March 23rd, 1892 (Pinard) —P—, aged thirty. She has had four confinements. The pelvis was annular, the promonto-subpubic diameter 9 cm. Her first confinement took place in 1887, at term. There was intervention after administration of ether, child stillborn. The second confinement took place in 1888, induced at eight months. A child died on the third day. The third confinement occurred in 1890, at term. There was an application of the forceps. M. Fochier, who extracted a boy weighing 3220 grm. (ab 7 lb.), but having a biparietal diameter of only 7 cm. A child died after fifteen days. There was a fourth confinement on March 23rd, 1892 (Clinique Baudelocque). The last monthly period occurred June 30th to July 2nd, 1891. The fundus uteri rose to 36 cm above the upper border of the symphysis. There was presentation of the vertex in the left transverse diameter (after external version and application of band). Tarnier's bag was introduced on March 21st, 10.50 A.M., the expulsion took place at 1 P.M. On the 22nd at 5 A.M., Champetier's bag was introduced. At 11 A.M. dilatation was complete, when the bag was extracted under chloroform and the membranes ruptured. After an hour (12.15) M. Fochier made successively oblique applications of Tarnier's forceps, then M. Pinard made a direct application—all without success. At 12 symphysiotomy was performed (seven minutes). The pubes separated spontaneously 1 cm., by abduction of the thighs separation was brought to 4.8 cm. At 12.50 a fourth application of the forceps was made, during which the separation amounted to 6½ cm. At 1 P.M. extraction was effected of a boy weighing 2730 grm. (over 5 lb.), whose cephalic diameters measured immediately after birth: Occipito mental, 12.7 cm., occipito-frontal, 11.8 cm., sub-occipito-bregmatic, 10.4 cm., sub-occipito-frontal, 10.6 cm., biparietal, 9.7 cm., bitemporal, 7.9 cm., sub-mento-bregmatic, 9.5 cm. The child was born in a state of apparent death, but rapidly revived. The child weighed on April 15th 3000 grm. (6.6 lb.). The puerperal condition was normal. There was union by first intention. The patient rose on the twenty ninth day, and was able to walk without pain, there was no abnormal mobility. She was seen on Dec 7th, and had then no trouble in walking or micturition. The child is living and healthy.

These three women were presented to the Academy of Medicine at its meeting on May 21st, and I read the *résumé* of the cases at the meeting of the Obstetrical Society of France.

CASE 4 May 3rd, 1892 (Varnier) —R—, aged twenty six, four confinements, height 1.46 m (4 ft 9 in.). Pelvis rachitic, annular, promonto-subpubic diameter 9.8 cm. First confinement in 1886, terminated by embryotomy after two days' labour. Second confinement in 1887, induced at about eight months, terminated by version when dilatation complete (head, with prolapse of cord, hands and one foot), girl, born in a state of apparent death, revived without sufflation, weight 2400 grm. (under 5 lb.), died next day. Third confinement in 1890 induced at eight months, terminated by basiotripsy. Fourth confinement on May 3rd, 1892 (Clinique Baudelocque), last monthly period Aug 3rd to 5th, 1891. The fundus uteri rose to 29 cm above the upper border of the symphysis, presentation of the vertex in left transverse diameter. Considering the antecedents, M. Pinard decided to induce labour and to practise symphysiotomy before making any attempts at extraction. Champetier's bag was introduced on May 3rd at 5.40 A.M., at 10.30 A.M. dilatation was complete, membranes intact, no prolapse, head in left transverse diameter not engaged. At 11.48 A.M. symphysiotomy was performed by M. Varnier. Spontaneous separation of 3 cm. occurred, followed by artificial rupture of membranes. At 11.58 A.M., on the application of forceps in the left transverse diameter, the extraction was easy (during which the separation did not increase more than half a finger's breadth) of a boy weighing 2130 grm. (about 4½ lb.), whose cephalic diameters were: Occipito-

infant was insufflated and revived, but died at 1 A.M. on Nov 14th, the cephalic diameters were as follows: Occipito-frontal, 13.6 cm., occipito-frontal, 11.2 cm., suboccipito-frontal, 10.7 cm., biparietal, 9.5 cm., bitemporal, 8.4 cm., the application of the forceps was irregular, oblique, the interior frontal region presenting a deep depression produced by the anterior blade, this depression disappeared in the evening at the same time as convulsive movements of the left half of the face appeared, the head, which is preserved in the museum, will be described later, puerperal condition temperature oscillating about 38°C (100.4°F) the first five days, union by first intention, the patient rose on the twenty second day, she had no trouble in walking or on micturition, is still under observation.

You have just seen these thirteen women, and you are able to report that their general condition leaves nothing to be desired. The only evidence of the operation that they have undergone is a small cicatrix, scarcely visible, in the middle of the pubic region. In each the pelvis is as firm as before the operation. There is no trouble in micturating or in standing. The result is therefore as satisfactory and as complete as possible on the maternal side. We have been less happy in the case of the infants, for although all were extracted living I have only been able to show you ten, all indeed equally well, but the other three died—the first on the third day after birth (Case 1) the second on the second day after birth (Case 4), and the third in sixteen hours after birth (Case 13). If we look for the cause of death in each case, we see that in the first death was produced by fracture of a parietal bone at the moment of extracting the after-coming head. The preliminary separation of the pelvis was certainly not sufficient, considering the size of the head and the amount of pelvic contraction. This is an extremely important point, to which I will return. The second child died of congenital feebleness for it showed no lesion at the necropsy. Although its weight at birth was 2130 grm (about 4½ lb.) its vitality was rudimentary. Its cry was feeble and its abdomen was large. Respiratory troubles soon appeared and it died of cyanosis. Neither the operation nor the operator can be blamed. The only one who might be considered culpable is myself, for I might be reproached for interrupting pregnancy too soon. But I was led to act thus because of what happened at previous confinements: first, at term, embryotomy, second, induced at eight months, foetus dead, third also at eight months, basiotripsy. I shall have to return to this point. As to the third child, it succumbed like the first, to a fracture, this time of the frontal bone. Although the spontaneous separation of the pubes before extraction was 3 cm., the head engaged with difficulty, for it was large (biparietal diameter 9.3 cm.), but especially because the application of the forceps was irregular (oblique). This is a point which we must not forget presently. Such are the results furnished by symphysiotomy in this clinique since Feb 4th, 1892.

Let us now consider the following three questions: 1. What has our experience taught us? 2. What place ought symphysiotomy to occupy amongst obstetrical operations? 3. What are and what will be its relation to other operations?

1. *What has our experience taught us?*—We have learnt, from the thirteen cases which have been observed in this clinique, that the results obtained on the cadaver can be obtained in the same way on the living patient and that the geometrical formulae of Professor Farabeuf are perfectly exact. We have learnt that the method of operation which we recommended and which we have employed, and which I ask permission to repeat briefly, renders the operation easy and absolutely protects the organs which ought not to be injured. All antiseptic precautions having been taken and the surgical and obstetrical instruments prepared, the woman should be placed on her back near the side of a firm bed of moderate height, so that one may command directly from above the median line, which has to be incised. In the case of the cadaver, one can stand on the right side to perform symphysiotomy. On the living it is better, on account of the development of the abdomen, to stand between the limbs. I have always done so on the living. An incision should be made in the median line, and exactly in this line, of the integuments and the prepubic adipose tissue for an extent of about 8 cm. the incision stopping above the clitoris. The recti in the upper part of the incision and immediately above the symphysis should be separated in order to allow the index finger to penetrate into the prevesical cavity and protect the bladder. This finger plays a most important rôle for me, it protects, it gives information. It protects the bladder by its dorsal aspect, it

often feels the pad of the symphysis (but not always, for this is often so very slightly prominent that it cannot be appreciated) and thus renders the section easy. As soon as the bistoury has penetrated into the symphysis it is this finger on which its blunt point strikes, and that keeps a record of its progress down to the last fibres of the subpubic ligament. The finger being thus in the prevesical cavity, the symphysis must be incised from above downwards, and from before backwards, by many touches of the bistoury, allowing the latter to penetrate where it finds least resistance. As soon as we are within the symphysis the bistoury must be allowed to guide, so to speak, and not be compelled to follow a straight line. Immediately after cutting the symphysis a complete section of the subpubic ligament should be made. For this section the precaution must be taken of introducing a sound into the urethra so as to incline the latter down to the side, then the ligament must be attacked with caution by small cuts, as if cutting it fibre by fibre. The finger shows the progress accomplished, and as a general rule, when the finger learns that only a few fibres remain, like a small resisting cord, this cord breaks and the spontaneous separation, which had been only a few millimetres, suddenly increases and reaches two or three centimetres. A careful abduction of the thighs then shows that a further separation can be easily obtained. I cannot too often repeat that before all obstetrical attempts one must be sure that the section is complete so that the foetus may have nothing to overcome by violence and at the peril of its life—that is to say, the pubes must be separated for at least 4 centimetres. If the abduction of the thighs is not sufficient to produce this separation, the registering separator, which has been made for us by M. Collin and which I show you, introduced between the two surfaces of the section, will easily produce this desirable and indispensable result. This being done, the wound must be closed with a sponge and antiseptic gauze or wool. You see that I reject, completely and absolutely, subcutaneous section, the incision of the symphysis from below upwards and the incision from behind forwards. You observe especially that I am in complete opposition to those who advocate incomplete section or who leave the subpubic ligament. I am convinced that if I had obtained a preliminary separation of 4 cm. in my first operation before extracting the foetus instead of leaving to the after-coming head the duty of separator I should have obtained a better result. So much for the method of operation in symphysiotomy itself. I now examine an obstetrical question and I say that both before and after symphysiotomy it is preferable to have a vertex presentation. An application of forceps is better than an extraction by the feet, at least, so I think. But, here, again, I cannot too often repeat that the application of forceps ought to be exact. The hand should be thoroughly introduced so as to place the first blade in the middle of the pre-auricular region, if the head is not flexed it should be first flexed with the hand. Nothing is easier. That being done the other blade should be introduced without displacing either the first blade or the head. Remember that when the two blades are introduced and placed, if they are not on the same plane and if you are obliged to make an effort to articulate them, the blades are badly placed, the head is wrongly seized and soon in pulling you will without doubt, make the head endure enormous local pressure and produce fractures. You remember what happened in Case 13. Well, then the necessity for an equal application of forceps on a flexed head after as well as before symphysiotomy is absolute. Then after section of the symphysis I prefer to intervene and not to trust to uterine contractions alone to expel the foetus, also after the extraction of the foetus I do not prolong the period of delivery. If after a quarter of an hour the placenta is not detached I practice artificial delivery, for the patient under the influence of chloroform is liable to hemorrhage and the anaesthesia must be continued till the sutures are completed. Immediately after the delivery I advise you to wash out the uterus. When the water returns clear and the uterus is well retracted I introduce into the vagina iodoform gauze, then I clean the wound with a sponge and a 5 per cent. carbolic lotion and proceed to suture the soft parts. The symphyses being brought together and well in contact, I place four deep silver sutures (which touch the anterior surface of the pubis) and four superficial ones and then cover with iodoform and iodoform gauze. After this, the legs being brought together and held in position by a bandage, the woman is placed in a bed which I have had made—a bed which, by means of its two lateral and concave tampons, enables the pelvic bones to be kept in

the responsibility of fixing the date for symphysiotomy M Varnier decided to wait till term. Labour began on Sept 12th at 7 P.M., dilatation was complete at 5.40 P.M., symphysiotomy was performed by M Varnier (six minutes), separation to 3.5 cm. was induced by abduction of the thighs, spontaneous rupture of membranes, at 5.49 P.M. the application of forceps in the left transverse diameter was followed by extraction at 5.55 (during which the separation reached 7 cm.) of a boy weighing 3200 grm (7 lb.), who cried at once and had the following cephalic diameters: Occipito mental, 12.5 cm., sub-occipito bregmatic, 9.8 cm., sub-occipito-frontal, 11.4 cm., biparietal, 9.5 cm., bitemporal, 8.5 cm., circumference, sub-occipito-bregmatic, 34.0 cm., circumference, sub-occipito frontal, 36 cm. Brought up by a wet nurse, this child weighed when discharged on Oct 16th 3630 grm. (over 8 lb.) Puerperal condition. Three times only, on the third, fourth and fifth days, did the temperature reach 38.5°C (101.3°F). There was union by first intention. The patient rose on the nineteenth day and was able to walk alone and without pain. It is to be noted that during the extraction there was produced (to the left of the urethra, which was intact as catheterism proved) a longitudinal tear in the anterior wall of the vagina, which allowed the index finger to pass from the vagina to between the separated pubes. The operation wound communicated with the vagina, which was tamponed with iodoform gauze left in position for three days. The patient left on Oct 16th in perfect condition. There was no abnormal mobility, or trouble in walking or micturating, the vaginal cicatrix could be clearly felt by the finger, and was not painful, when seen on Dec 7th the same condition was observed, the child was healthy.

CASE 10 Oct. 1st, 1892 (Pinard) —F—, aged twenty five. The following are the notes. Two confinements, pelvis flat, promonto subpubic diameter 10 cm. First confinement in 1891, albuminuria and eclampsia, twins, extraction by the feet, the children being alive, one died on the fourteenth day and the other at four months, one weighed 2300 grm. (5 lb.), biparietal 8.5 cm., the other 1980 grm (over 4 lb.), biparietal 8.4 cm. Second confinement Oct. 1st, 1892 (Clinique Baudeloque), last monthly period Dec 15th to 18th, 1891, presentation of the vertex, not engaged, in left transverse position, labour began on Sept. 29th at 7 P.M., at 9 P.M. on Oct 1st, dilatation having remained stationary for twelve hours (as the size of a five franc piece), the membranes were ruptured, the head scarcely engaged, very much inclined on the posterior parietal region midway between flexion and extension, M Varnier applied a Champetier's bag, and when the dilatation was complete, after extraction of the bag distended to the maximum, he applied the forceps in the left transverse diameter, which only accentuated the deflexion, he then made a second application of the forceps, flexion was obtained, but in spite of powerful traction no engagement was produced, not wishing to make a forcible application, M Varnier consulted M Pinard, who at 10.50 P.M., things being still in the same condition, performed symphysiotomy (twelve minutes), followed by immediate separation to 3 cm., at 11.9 P.M., on the application of the forceps in the left transverse diameter, easy extraction was effected (during which separation amounted to 4.5 cm.) of a boy weighing 3220 grm. (7 lb.), with the following cephalic diameters: Sub-occipito bregmatic, 9.3 cm., sub-occipito frontal, 10.6 cm., biparietal, 9 cm., bitemporal, 7.8 cm., circumference—sub-occipito bregmatic, 31 cm., sub-occipito-frontal, 32 cm., brought up by a wet-nurse, the child weighed when he left 3420 grm. (nearly 7 lb.), puerperal condition normal, union by first intention, the patient rose on the nineteenth day, walking alone and very well, she left on Nov 6th in perfect condition, when seen on Dec. 7th she had no trouble in walking or on micturition, child healthy.

CASE 11 Oct. 6th, 1892 (Pinard) —B—, aged twenty eight. The following are the notes. Two confinements, pelvis rachitic, annular, promonto subpubic diameter 10 cm. First confinement in 1889, at term, terminated by an application of the forceps, the child died on the twenty seventh day of convulsions, bearing still the traces of the forceps. Second confinement on Oct. 6th, 1892 (Clinique Baudeloque), last monthly period, Dec. 26th to 29th 1891, presentation of the vertex, not engaged, in left transverse position, labour began on Oct. 5th at 3 A.M., spontaneous rupture of membranes at 7.20 P.M., dilatation complete at 11.55 P.M., the forceps were applied in left transverse diameter at the pelvic entrance by Dr Wallich who, in spite of energetic traction, could not engage the head,

after making a manual examination, M. Varnier, not wishing to make a second application which would involve force, consulted M. Pinard, who, being exactly informed as to the condition of the mother and foetus, advised delay, at 10 A.M. the temperature being 38.8°C (102°F) and things being still at the same point, M. Pinard performed symphysiotomy (two minutes) resulting in immediate separation to 3 cm. on the application of the forceps in the left transverse diameter extraction was easily made at 10.25 A.M. (during which the separation reached 5.8 cm.) of a boy weighing 3750 grm (over 8 lb.), the infant was born apparently dead, but rapidly revived, and had the following cephalic diameters: Occipito mental, 13.6 cm., occipito frontal, 11.0 cm., sub-occipito bregmatic, 10.3 cm., sub-occipito frontal, 11.5 cm., biparietal, 8.4 cm., bitemporal, 7.9 cm. brought up by a wet-nurse, this child weighed when he left on Nov 15th 4840 grm (about 9½ lb.), puerperal condition temperature oscillated about 38°C (100.4°F) without exceeding 38.5°C (101.3°F), during the first twelve days union by first intention, the patient rose on the twenty-fourth day (Oct. 29th) and left on Nov 15th in perfect condition when seen on Dec 7th, she had no trouble in walking on micturition, child healthy.

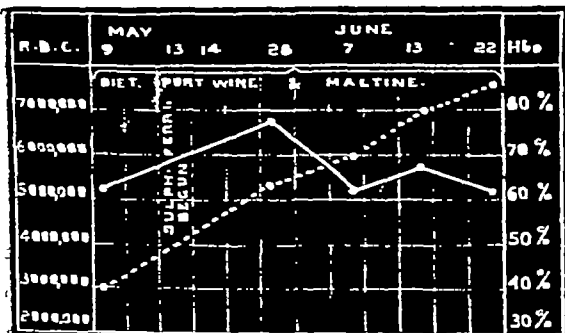
CASE 12 Oct. 21st, 1892 (Wallich) —M—, 7 following notes were taken. Three confinements, pelvis annular, promonto-subpubic diameter 10.5 cm. First confinement spontaneous, at term, child living. Second confinement spontaneous, in 1889, child large, died during labour. Third confinement on Oct. 21st, 1892 (Clinique Baudeloque), last monthly period Jan. 4th to 8th, presentation of vertex, not engaged, in left transverse diameter, labour began on Oct. 19th, at 8 P.M., spontaneous rupture of membranes at 1 A.M. on the 20th, at morning visit on Oct. 20th M. Varnier reported that the head which presented in left transverse diameter, not engaged, an attitude midway between flexion and extension, was inclined on the anterior parietal region (obliquity of Naegele), foetus large, dilatation equal to a five-franc piece, progress impossible, considering the obliquity of Naegele, deflexion, the retraction of the pelvis and the position of the foetus. If these things did not correct themselves it would be useless and dangerous to apply the force. Symphysiotomy would have to be performed at once if the head did not become engaged of itself. At 5 P.M. dilatation was complete, at 10 P.M. manual exploration showed that the head had not moved a line, at 11.50 P.M. Wallich performed symphysiotomy, which resulted in immediate separation (at 12.10) by abduction of the thighs to 2.5 cm., a first application of the forceps having slipped (12.15) and there being a prolapse of the coccyx M Varnier made a second application rapidly in flexion, succeeded in extracting at 12.20 (during which the separation reached 4.5 cm.) a boy weighing 3650 grm (8 lb.), who, born apparently dead, but began to breathe at 12.27 and cried at 12.31, the cephalic diameters were: Occipito-mental 13.5 cm., occipito frontal, 12.3 cm., sub-occipito-bregmatic 10.4 cm., sub-occipito frontal, 11.4 cm., biparietal, 9.5 cm., bitemporal, 7.9 cm., circumference—sub-occipito bregmatic 33.0 cm., sub-occipito-frontal, 35.0 cm., this child, nourished by a wet-nurse, weighs now 4610 grm (over 10 lb.), puerperal condition temperature 38.6°C (101.3°F) during the first six and seventh days, union by first intention, still removed on Oct. 29th, the patient rose on Nov 8th (nineteenth day), she walked well and without pain. Nov 16th, on which day the temperature was 38.4°C (101.2°F), on the next day she had phlegmasia alba dolens of the left leg for which she is still being treated.

CASE 13 Nov 13th, 1892 (Potocki) —F—, aged thirty eight. The notes were as follows. Two confinements, pelvis rachitic, annular, promonto subpubic diameter 9.7 cm. First confinement in 1880, at term, cephalotripsy. Second confinement on Nov 13th, 1892 (Clinique Baudeloque), last monthly period from Feb. 1 to 22nd, 1892, breech presentation transformed by internal version into occipito iliac right transverse, labour began on Nov 11th at 11 P.M., spontaneous rupture of membranes occurred at midnight, dilatation was complete on Nov 13th at 8 A.M., considering the information furnished by palpation, M Potocki performed symphysiotomy at once (nine minutes), which was followed by spontaneous separation to 3 cm., at 9.11 A.M. the application of the forceps resulted in the extraction at 9.4 (during which the separation amounted to 5.7 cm.) of a boy weighing 3300 grm (over 7 lb.), born apparently dead,

chloric acid plays in primary gastric digestion, I am disposed to believe that at any rate one considerable group of anæmias originates in the initial failure of the albuminoids to undergo normal transformation through defect of gastric hydrochloric acid, thereby leading to blood impoverishment, not necessarily in consequence of the active destruction of corpuscles but from the failure to provide sufficient and proper material necessary for their construction. In order to test the correctness of this supposition I have selected a case of grave anæmia, associated with the complete absence of gastric free hydrochloric acid in the stomach, and which is at present under treatment by hydrochloric acid, as the only therapeutic remedy the patient receiving 100 minims daily of the dilute acid. The case is still under observation, but the results at this stage are sufficiently interesting and instructive to justify my proceeding with the trial.

CASE 1.—J I—aged seventeen, a shop girl was admitted to Ward 30 on May 19th 1892, suffering from chlorosis. There was no evident decrease in the number of red corpuscles which were about 5,000,000 per c.mm. The hæmoglobin was down to 40 per cent. The blood cells were smaller than normal and defective in form. It will be seen by reference

CASE 1



Corpuscles anemorphous.

to the chart that the corpuscles remain almost stationary at a comparatively high standard, and the hæmoglobin steadily rises to 85 per cent. This deviation from the usual course is characteristic of the chlorotic type of anæmia.

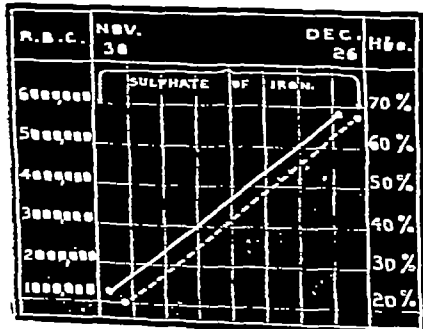
Treatment.—Sulphate of iron. The slow recovery of the hæmoglobin was peculiar to chlorosis and the treatment was prolonged to forty days.

Progress

Date.	R. d corpuscles	Hæmoglobin.
May 9 h	5,110 000 per c.mm.	40 per cent.
„ 28th	6,810 000 „	64 „
June 7th	5,240 000 „	70 „
„ 13th	5,780 000 „	80 „
„ 22nd	5,270 000 „	86 „

CASE 2.—J D—aged eighteen, was admitted to Ward 30 on Nov 21st suffering from symptomatic anæmia complicated with intercurrent influenza. The temperature on admission

CASE 2.



Duration of treatment twenty-six days.

was 105 F, the pulse 140 and the respiration 48. By means of antipyrin her temperature was reduced in twenty four

1 The dotted line in the charts represents the percentage of hæmoglobin in the blood at definite periods of the case and the continuous line the number of blood corpuscles per c.mm.

hours to normal. Nine days thereafter she was prescribed sulphate of iron for the anæmia, which persisted after convalescence from influenza. The blood at the commencement of treatment was reduced to 1 150 000 red corpuscles per c.mm. with only 20 per cent of hæmoglobin. At the end of twenty-six days the red cells numbered 5 800 000 per c.mm. and the hæmoglobin 68 per cent. The patient was discharged cured on Dec. 26th.

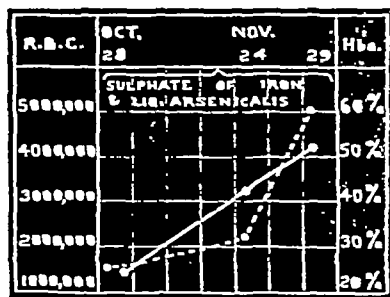
Treatment.—Sulphate of iron. The recovery of red corpuscles and hæmoglobin was equally progressive throughout, cure resulting in twenty six days.

Progress

Date	Red corpuscles.	Hæmoglobin.
Nov 30th	1 150 000 per c.mm.	20 per cent
Dec. 26th	5 800 000 „	68 „

CASE 3.—M D—, on admission to Ward 30 on Oct 28th, was suffering from symptomatic anæmia. Her red corpuscles were reduced to 1,590 000 per c.mm. and the hæmoglobin to 25 per cent. Sulphate of iron and liquor arsenicalis were at once prescribed. The effects were immediately apparent, and continued progressing until Nov 29th, when of her own accord, she left the hospital to resume her work in a factory. In ordinary circumstances she would not have left hospital

CASE 3.



for a couple of weeks longer by which time the red corpuscles would have been over 5 000 000 per c.mm. and the hæmoglobin would probably have registered 70 per cent. This case fairly shows the average time of recovery in symptomatic anæmia treated from the first with iron. It further shows the equal improvement in both constituents.

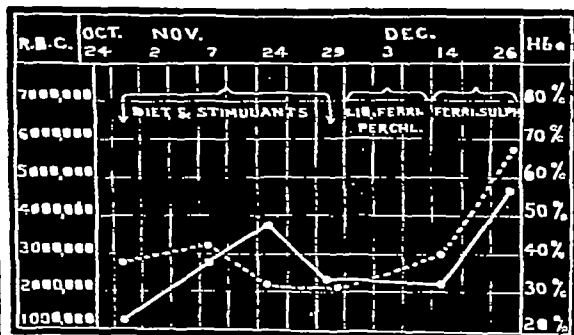
Treatment.—Arsenic. Doubtful as to any specific effect on the blood corpuscles or hæmoglobin. It manifestly does not retard, and probably enhances, the effects of the iron. Sulphate of iron. Its twofold effect upon the red corpuscles and hæmoglobin were at once apparent.

Progress

Date	Red corpuscles.	Hæmoglobin.
Oct 28th	1,590 000 per c.mm.	25 per cent
Nov 24th	3,240 000 „	31 „
„ 29th	4,210 000 „	60 „

CASE 4.—B. R—aged eighteen, was admitted to Ward 30 on Oct 24th 1892, suffering from typical chlorosis. On admission she was put on ordinary ward diet, to which

CASE 4



Corpuscles heteromorphous. Some abnormally large and some abnormally small.

were afterwards added maltine and port wine and this trial was continued over thirty six days. During that space the red blood cells had increased from 1 030 000 per c.mm. to

constant apposition—or in a “gouttière de Bonnet” This is possible in a hospital but might be impossible in ordinary practice, though I think that the simple apposition of the legs with a well applied trunk bandage very firm in the pelvic region, or a plaster bandage such as I had for my first case, would be quite sufficient. The superiority of my bed or of the “gouttière de Bonnet” consists in the facility with which the whole body can be raised without causing the least movement of the pelvis. The sutures should be removed on the eighth day and then the patients can turn in the bed easily and without pain. Although one of our cases rose without permission on the fourteenth day and no harm resulted, I think it prudent not to let the patients rise till about the twentieth day. This, in my opinion, is the best course to follow during and after the operation. The open section of the symphysis, from above downwards and from before backwards, which may be called the French method, is an operation which does not require any complicated array of instruments. A short-bladed bistoury, firm and fine, and a probe-pointed bistoury are absolutely sufficient, but I would recommend you to have as well a chain saw and a registering separator. The chain saw will be your ultimate resource if by chance you cannot cut the symphysis. It is said that sometimes the symphysis is ankylosed. That may be so, for I do not pretend to have seen everything, but all I can affirm is that I have made a section of the symphysis on the cadavers of more than 100 aged females and have never met with ankylosis. The self-registering separator will enable you to follow the progress of the separation during the extraction. In several of our cases we have seen separation go beyond 6 cm., and in these cases consolidation of the pelvis took place as well and as quickly as in the cases where the separation did not exceed 4 cm. I think it would be unwise to go beyond 7 cm., and it is necessary to increase the slowness of the extraction and to render the pelvis immobile when the needle begins to pass 6 cm. And if I insist on this point it is less from fear of producing lesions in the region of the sacro iliac synchondrosis than from a desire to avoid lesions of the soft parts in the region of the vulva, vagina and bladder. We have never observed lesions of the urethra or bladder, but in three cases (6, 9, and 11) we noticed after the extraction a small vestibulo vaginal rupture, communicating, in one case at least, with the operation wound. These lacerations healed quickly and without sutures, but similar solutions of continuity might be the starting point of lesions more extensive and deeper and on that account more serious.

2 *What place ought symphysiotomy to occupy among obstetrical operations?*—To day one can say not only that symphysiotomy is resuscitated, but that it ought to occupy a foremost place amongst obstetrical operations. It ought to occupy a foremost place, I say, because it is most essentially a conservative operation. It does not and should not injure any important organ of the mother. It can and should save the child from all grave lesions. Does this mean that statistics will never register a death either of mother or foetus? Certainly not. But will the operation be to blame in all these cases? Symphysiotomy will be practised in cases where the application of forceps has already been tried and in cases already infected. These cases may succumb. Would they only succumb after symphysiotomy? No, embryotomy and Cæsarean section would not have given a better result. I do not deceive myself. I shall be opposed and treated as an enthusiast, but meanwhile, till some one shows me a woman who has died solely from symphysiotomy, I shall persist in my conviction. I have had the pleasure of seeing my master (M. Tarnier) support symphysiotomy with his great authority. I have a not less sincere pleasure in seeing Professor Leopold, the great performer of Cæsarean sections, adopt and put in practice our method. I see that numbers of our colleagues and *confrères* think and act as we do. That is enough, I shall leave facts to convince or convert others.

3 *What are and what will be the influence of symphysiotomy on other obstetrical operations?*—On some it will be good and on others it will be very bad. Amongst the latter I cite first of all embryotomy practised on a living foetus. Its day is over, we are for ever rid of this nightmare. The Cæsarean operation, followed or not by the amputation of the uterus and ovaries, will become more and more rare. Indications for this will still be found in cases of uterine and other tumours filling the pelvic cavity, but happily such cases are not very numerous. Yet even in some of these cases symphysiotomy may be indicated. Thus M. Lepage, our

chef de clinique, has practised in this city, with success both as regards the mother and the child, a symphysiotomy in a case where a tumour partly obliterated the pelvis. In cases of contracted pelvis the Cæsarean operation ought only to be recognised in cases of absolute necessity. The cases of pelvis where this operation is positively indicated are so rare that it is most likely you will never meet with one. If the relations between symphysiotomy and embryotomy and the Cæsarean operation are easy to define, the task is not so easy when it is necessary to establish the relations between symphysiotomy on the one side and premature delivery and the application of forceps on the other. Still I think one can say from to day that symphysiotomy is calculated to render great service in cases of induced labour. It will at least prevent the induction of labour too prematurely. The fear of an obstacle from the contracted pelvic cavity will no longer haunt us, and knowing that we have the power of, and I might say the faculty for, enlarging the passage we can wait calmly for the maturing of the foetus so that its capability for extra uterine life may be certain. A point, which can only be decided by long experience and by a considerable number of well observed facts, is the following. Is it better to induce labour at eight months, counting on natural delivery, or to wait for the spontaneous onset of a tempestuous labour and then perform symphysiotomy? I do not feel at liberty to express my opinion on this subject yet. I have formed an opinion, but I must wait before making it known to see whether many observations will support or modify it. I symphysiotomy ought to bring to an end all labours induced too prematurely it ought also to make all forcible applications of forceps disappear. How often, in the fear of having to practise an embryotomy and in the hope of extracting a living child, have we not—have I not, I should say—exercised such long and strong traction that the result was nothing but a cephalotripsy in disguise? Symphysiotomy ought to put an end for ever to all such tractions. When a perfect application of the forceps has not been able to engage the head, after moderate tractions there is only one thing to be done, and that is, to withdraw the instrument and practise symphysiotomy as I did in my second case, where the pelvis was not rachitic and very little below the normal, but in which the foetus was extremely large.

You see, gentlemen, the influence already exercised by symphysiotomy on the majority of obstetrical operations. You see the beneficent part it exercises and will exercise in nearly all cases of pelvic contraction. In pelvis simply small or flattened, in pelvis contracted by rickets—that is, with the contraction at the pelvic entrance—and in pelvis contracted at the outlet, the latter gaining more from symphysiotomy than when the entrance is affected. There only remain the asymmetrical pelvis and especially the pelvis obliquely ovalar with synostosis of one sacro iliac symphysis. Here symphysiotomy loses half or all its advantages, it is true, but I am happy to tell you that I have been able to practise in a case of this kind with success an operation conceived and described by Professor Farabœuf—namely, ischio pubiotomy—which I performed for the first time on Nov 9th and which I may have the honour of relating to you in future lecture.

ON THE TREATMENT OF ANÆMIA AND CHLOROSIS BY THE CHIEF IRON PREPARATIONS COMMONLY IN USE

By ANDREW SMART, M.D., F.R.C.P. EDIN,
PHYSICIAN TO THE ROYAL INFIRMARY OF EDINBURGH ETC

THE patients whose cases are here reported were under my care in Wards 30¹, 32² and 33² during the past year (1891-2). The cases include symptomatic anæmia, chlorosis and pernicious anæmia, and the object chiefly contemplated was to satisfy myself as to the relative efficacy of some of the chief ferruginous substances employed in their treatment also, to ascertain whether our present views in regard to them are correctly founded, and, further, to decide its importance to be attached to the varying amounts of red corpuscles and hæmoglobin which characterise the course of those diseases. Recognising the important rôle which hydr

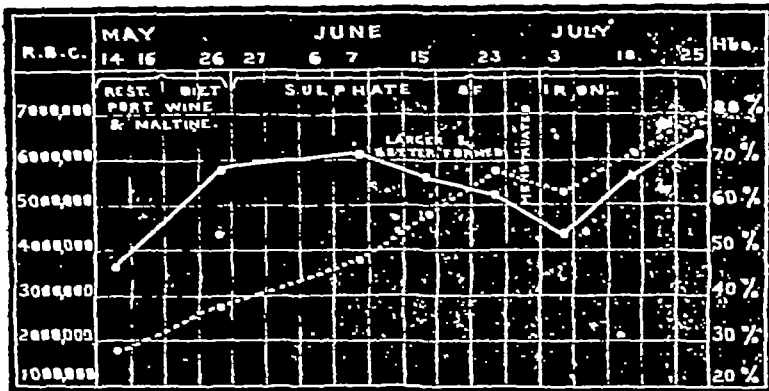
¹ George Wilson, M.A., M.B., C.M. Edin., house physician.
² R. O. Petrie, M.A., M.B., C.M. Edin., house physician.

aver type of anæmia than that of the symptomatic form it may be added that not only does the hæmoglobin recover slowly, but that the corpuscles remain for a longer period ineffective in size and shape. The patient was fifty nine days on iron treatment.

Treatment—Diet (with port wine and maltine) Rapid relative increase of red blood-cells, slight relative increase of hæmoglobin, no appreciable change in size and shape of corpuscles. Sulphate of iron. Progressive increase in

Date	Progress	
	Red corpuscles.	Hæmoglobin.
July 18th	2,500,000 per c.mm.	30 per cent
27th	2,900,000	40
Aug 4th	3,400,000	35
10th	3,000,000	43
17th	3,600,000	55
24th	4,500,000	60
Sept. 9th	5,800,000	70

CASE 7

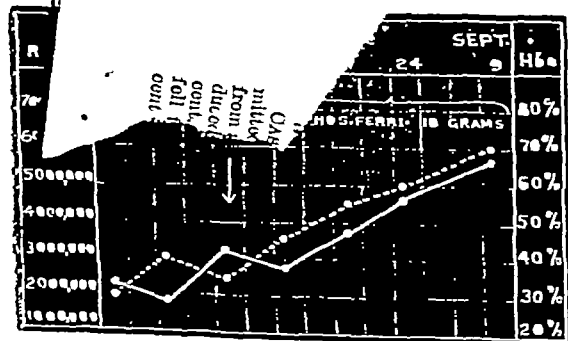


hæmoglobin, red corpuscles continue to increase and recover their normal character

Date	Red corpuscles.	Hæmoglobin.
May 14th	3,600,000 per c.mm.	38 per cent
27th	5,900,000	38
June 7th	6,100,000	49
15th	5,600,000	58
23rd	5,300,000	68
July 3rd	4,500,000	64
10th	5,800,000	74
25th	6,500,000	80

* Menstruation.

CASE 8.—J L.—aged seventeen was admitted to Ward 30 on July 18th, 1892, suffering from symptomatic anemia. She was put on diet only for the first nine days with the result that the hæmoglobin increased from 30 to 40 per cent., the corpuscles showing nearly the same enumeration—namely 2,000,000 per c.mm. On July 27th the patient was prescribed seven grains of iron, thrice daily afterwards the hæmoglobin

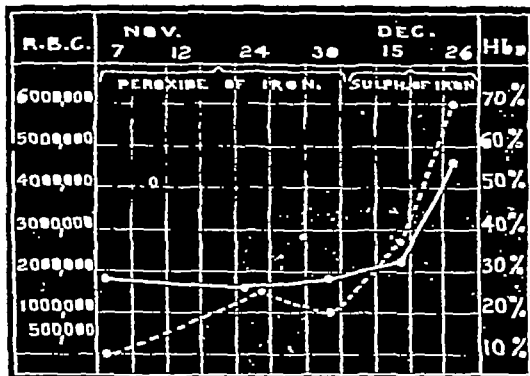


and red corpuscles progressively increased until Sept. 9th. At that date the corpuscles were 5,800,000 per c.mm. and the hæmoglobin 70 per cent. the patient having been forty three days taking phosphate of iron.

Treatment—Diet only Hæmoglobin moderately increased red corpuscles stationary Phosphate of iron Hæmoglobin and corpuscles progressively recovered, but recovery is slower than with some of the other irons

CASE 9.—M G.—aged nineteen was admitted to Ward 30 on Nov 4th 1891, suffering from symptomatic anemia. On admission the red corpuscles were 1,900,000 per c.mm. and the hæmoglobin 10 per cent. She was at once put on treatment by peroxide of iron which was continued for fifteen days. During this time the corpuscles were reduced to 1,640,000 per c.mm., but the hæmoglobin increased to 26 per cent. An examination six days later showed that the corpuscles had returned to their original number, but that the hæmoglobin had diminished to 20 per cent. The result of this trial with peroxide of iron proving unsatisfactory, it was suspended and the sulphate of iron substituted. After fifteen days during which the sulphate of iron was continued the corpuscles had risen to 2,250,000 per c.mm. and the

CASE 9



Corpuscles irregular

hæmoglobin to 38 per cent and seven days later the blood cells had increased to 4,630,000 per c.mm. and the hæmoglobin to 70 per cent. The actual time of treatment by sulphate of iron was twenty six days. The three weeks' trial with peroxide of iron is practically out of account

Treatment—Peroxide of iron Results negative. Sulphate of iron Normal restitution of corpuscles and hæmoglobin in twenty six days

Date	Red corpuscles.	Hæmoglobin.
Nov 6 h	1,900,000 per c.mm.	10 per cent.
24th	1,640,000	26
30th	1,900,000	20
Dec. 15th	2,250,000	38
26th	4,630,000	70

(To be concluded.)

5,830,000 per c mm., but the hæmoglobin had fallen from 38 per cent to 32 per cent., so that, as regards the hæmoglobin, the patient being on diet only, the whole of the trial had been retrograde. On Dec 1st perchloride of iron was prescribed and continued for fourteen days. At the end of that time the hæmoglobin had risen to 40 per cent., but the red corpuscles were reduced to 2,000,000. This remedy proving unsatisfactory, the sulphate of iron was substituted for it on Dec 14th, and from that date there followed immediate and progressive increase in both constituents. On Dec. 26th, when the patient left hospital, the red corpuscles were 4,720,000 per c mm., and the hæmoglobin 68 per cent.

Treatment—Diet (thirty six days) Increase of red corpuscles, diminution of hæmoglobin. Perchloride of iron (fourteen days) Increase of hæmoglobin, reduction of red corpuscles. Sulphate of iron (twelve days) Progressive increase in hæmoglobin and red corpuscles.

Progress

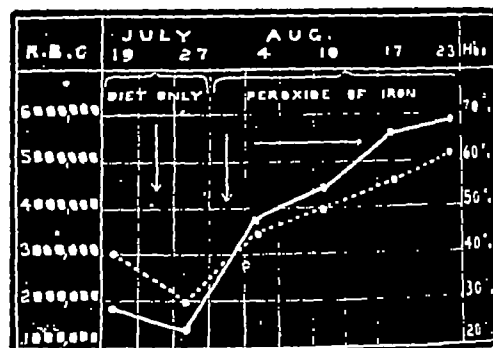
Date	Red corpuscles	Hæmoglobin
Oct. 24th	1,030,000 per c mm.	38 per cent
Nov. 7th	2,800,000 "	40 "
" 14th	3,800,000 "	32 "
" 29th	2,250,000 "	32 "
Dec. 14th	2,100,000 "	40 "
" 26th	4,720,000 "	68 "

CASE 5—K M—, aged twenty one, was admitted to Ward 30 on June 25th, 1892, suffering from symptomatic anæmia. Her condition represented a severe type of the symptomatic group, with 2,600,000 red corpuscles per c mm. and 25 per cent. of hæmoglobin. Both constituents remained stationary at the end of eight days on diet only. On July 3rd five minims of liquor arsenicalis were prescribed three times daily, the dose to be increased to thirty minims daily. An examination of the blood on July 10th showed the hæmoglobin to be stationary and the red corpuscles almost so. On July 11th sulphate of iron was substituted for the arsenic. From that date the hæmoglobin and red corpuscles markedly and rapidly increased to Aug. 16th, when the patient was discharged in perfect health, the red corpuscles being 6,400,000 per c mm. and the hæmoglobin 68 per cent. By comparison

oxide of iron, to be given thrice daily. It was ascertained on Aug 4th that the red corpuscles had increased to 3,800,000 per c mm. and the hæmoglobin to 46 per cent. Steady progress continued to be made until Aug 23rd, at which time the patient left the hospital cured. At that date the red corpuscles had increased to 6,000,000 per c mm. and the hæmoglobin to 70 per cent. She was twenty six days on peroxide of iron treatment.

Treatment—Diet alone. Marked reduction in red corpuscles

CASE 6



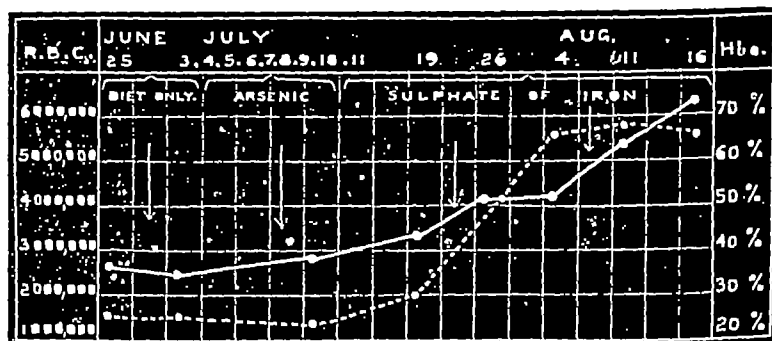
and in hæmoglobin. Peroxide of Iron. Immediate and marked increase in both constituents, with complete recovery in twenty six days.

Progress

Date	Red corpuscles	Hæmoglobin
July 17th	1,900,000 per c mm.	40 per cent.
" 27th	1,500,000 "	30 "
Aug 4th	3,800,000 "	46 "
" 10th	4,600,000 "	56 "
" 17th	5,600,000 "	62 "
" 23rd	5,800,000 "	62 "

* Diet only

CASE 5



with chlorosis the difference in this case of symptomatic anæmia is strikingly brought out in the much more rapid and concurrent progress in both hæmoglobin and red corpuscles.

Treatment—Diet. No improvement. Arsonic. Improvement doubtful. Sulphate of iron. Immediate and continued improvement in red corpuscles and hæmoglobin.

Progress

Date	Red corpuscles	Hæmoglobin
June 25th	2,600,000 per c mm.	25 per cent.
July 3rd	2,500,000 "	25 "
" 10th	2,900,000 "	25 "
" 19th	3,300,000 "	30 "
" 26th	4,200,000 "	52 "
Aug 4th	5,200,000 "	66 "
" 11th	5,400,000 "	65 "
" 16th	6,400,000 "	68 "

CASE 6—M C—, aged twenty, a waitress, was admitted to Ward 30 on July 19th, 1892. She was then suffering from advanced chlorosis. The red blood corpuscles were reduced to 1,900,000 per c mm. and the hæmoglobin was 40 per cent. During the first ten days, on diet only, the corpuscles increased to 1,500,000 per c mm. and the hæmoglobin to 30 per cent. On July 27th she was prescribed fifteen grains of per

CASE 7—I S—, aged twenty four, was admitted to Ward 30 on May 14th, 1892, labouring under marked chlorosis with 3,600,000 per c mm. of red corpuscles and 28 per cent. of hæmoglobin. She was in the first instance put on ordinary diet, with the addition of maltine and port wine which were continued for twelve days, at the end of which the red corpuscles had increased to 5,900,000 per c mm., but the hæmoglobin only at 38 per cent. Notwithstanding this relatively large increase in the corpuscles the patient did not show evidence of being in a really improved condition. This stage treatment by sulphate of iron was begun given seven grain doses thrice daily. The immediate effect of this was evident in a marked increase in the hæmoglobin, the cells also increasing in number. She continued under the same iron treatment until July 25th, at which time she was in the Infirmary in perfect health with the percentage of hæmoglobin at 80 and the corpuscles numbering 6,500,000 per c mm. The point of chief clinical interest to be noticed in this typical case of chlorosis is the comparatively slow rate of increase in the hæmoglobin and the rapid and excessive restoration of the red blood cells. I have found this feature characteristic of the whole of the chlorotic group, marking a difference whereby chlorosis may generally be distinguished from symptomatic anæmia. As indicating that chlorosis is

at the bottom of the tube, but the fluid remains clear All cultures have a powerful, musty odour

GENERAL REMARKS

Definition—Several writers seem to have confused Streptothrix and Cladothrix. Thus Macé in his account of what he calls "Cladothrix dichotoma," describes an undoubted streptothrix. But the distinction is simple enough Cohn's definitions were—Cladothrix very fine leptothrix filaments, colourless, not articulated, straight or wavy, with false branching Streptothrix very fine leptothrix filaments, colourless, non articulated, straight or slightly spiral, with true branching Besides these, they are further distinguished by the former possessing a sheath which the latter does not It is in fact the presence of a sheath in Cladothrix that accounts for the false branching, for it holds together filaments which without it would fall asunder

History—The first to discover the cladothrix was Cohn, who two years later described and figured it, together with another organism which von Græfe and afterwards Foerster had observed in the lacrymal canal, and which Cohn now names Streptothrix Foerster. Cienkowski next studied the cladothrix. In 1877 he stated that he had seen both true and false branching but as he makes no mention of Streptothrix it is probable that he has confounded the two Zopf in 1882 published an excellent description of Cladothrix, which was accompanied by several valuable plates, he, however, could not distinguish between the two varieties and says that they could not be separated. But he denies that he has ever seen true branching in any organism whatever, and therefore it is evident that he had never studied the streptothrix Winter, two years later, considered Streptothrix and Cladothrix as synonymous terms Macé in 1888 succeeded in cultivating an organism which he called Cladothrix dichotoma, but, as mentioned before, this was a true streptothrix and differed in several particulars from true Cladothrix dichotoma. The specific cause of cattle disease in Guadeloupe—farcin de bœuf—was described in 1889 by Nocard as a cladothrix, but subsequent investigation by Metchnikoff showed it was a streptothrix. Billel who has considered the cladothrix from every point of view, and has gone into it very exhaustively, has endeavoured to cultivate this organism on ordinary media, but not altogether with success But in the hanging drop he has observed all the stages of development of the cladothrix, including the formation of rods and coccus forms Since 1890 Russell cultivated a true cladothrix from sea water, and Eppinger from a case of meningitis, has isolated a streptothrix, although he calls it a cladothrix, other forms of streptothrix have been isolated by Gasperini, Almqvist, Dorn, Gruber Sauvageau and Radais and lastly by myself

Reproduction—The methods by which reproduction is provided for in the different species are various In Cladothrix dichotoma Billel claims to have observed the formation of true endogenous spores The first stage in their formation is a retraction of the protoplasm of the filaments into a rectangular bacillus-like body, which then divides into two portions, each of which again similarly divides, so that we have the appearance of fine angular or rounded bodies (spores) enclosed within a clear hyaline sheath. In my cladothrix no spores could be observed. Macé says the filaments of Cladothrix dichotoma (sic) may become segmented into very short rods or spherical bodies which may be considered as arthrospores Dorn, according to Sauvageau describes sporiferous filaments which are very much thicker than the vegetative filaments and segment into spores These swell up by a process but little known, though certainly connected with the presence of air in the interior and rupture of the investing membrane sets the spores at liberty The method of sporulation described by Sauvageau and Radais in Oöspora Guignardi is very similar to that of Dorn and of my Streptothrix C The surface of all cultures on solid media is covered with a white powder, which consists of short sponiferous filaments, distinguished from the ordinary vegetative filaments by their much greater thickness Segmentation takes place simultaneously along the whole filament. The spores are round or oval and can easily be separated from each other They stain easily with aniline dyes and with Gram's stain. Almqvist describes a very curious method of fructification When cultivated in a thin layer of fluid the plant gives rise to filaments which rise out of the fluid into the air and there become segmented into oidiospores These spores become covered with oil produced by the plant itself so as not to be wetted, and can then be distributed by the wind to other places for development.

Place in classification—Cohn considered—and his opinion has been closely followed by Zopf and others—that Streptothrix and Cladothrix were closely allied Sauvageau and Radais on the other hand, think these two plants have nothing in common. They regard Cladothrix as a bacterium and Streptothrix as a mycelium, the latter, therefore, should be placed amongst the mould fungi and not amongst the bacteria. As regards Streptothrix, Dorn believes they belong neither to the bacteria nor to the moulds, but to a special group of their own Almqvist agrees with Cohn and Brefeld that Streptothrix is a bacterium and forms a connecting link with the Hyphomycetes I rather incline towards Sauvageau's view that Streptothrix and Cladothrix are not at all closely allied. The latter, I think there can be no doubt, belongs to the group of Bacteria, but the proper place for Streptothrix is by no means so readily determined. In certain characters—for example, the appearance of so-called coccus forms and short rods—they resemble the bacteria, other characters, however, such as the musty odour which most of them possess, and especially their fructification by means of conidia, point very conclusively to the Hyphomycetes They undoubtedly form a connecting link between the two families but I think, should be placed rather among the latter than the former

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HOSPITAL PRACTICE, BRITISH AND FOREIGN

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI De Sed. et Caus. Morb., lib. iv Proœclum.

ROYAL FREE HOSPITAL

PNEUMONIA FOLLOWED BY ULCERATIVE ENDOCARDITIS
AND MENINGITIS.

(Under the care of Dr SAINSBURY)

CASES of malignant endocarditis though not very in frequent, are always interesting, and in particular in their etiology The present case illustrates the well known but ill-understood relation between pneumonia and this form of endocarditis According to Osler pneumonia was present in 11 out of 23 cases observed in Montreal and in 54 out of the 209 cases which he analysed in his Gulstonian Lecture. Meningitis is a not infrequent further complication, it was observed in 25 of the 209 cases, and in 15 of these 25 there was also pneumonia For the notes of this case we are indebted to Mr Wilmot H Evans B Sc. Lond., registrar

A furniture porter was admitted into the Royal Free Hospital on Nov 11th, 1892, under the care of Dr Sainsbury complaining of pain in the side and shortness of breath. In his family history there was nothing noteworthy He had lived in London for the greater part of his life, well clothed

ON THE GENERA STREPTOTHRIX AND CLADOTHRIX OF COHN

By G. W. DAMMAN, M.B., CH. B. MELB.

ASSISTANT BACTERIOLOGIST TO PROFESSOR RAY LANKESTER, OXFORD UNIVERSITY

WITHIN the last year or two several observers on the Continent have isolated and described a species of micro-organism consisting of branched mycelium like threads, and therefore not belonging to the Schizomycetes. So far as I am aware no one has described anything similar in this country, and therefore I make a few remarks about these plants and bring before the readers of THE LANCET the results of my own observations. But before entering into general considerations I shall first describe three members of this group which I have isolated and cultivated, one being chromogenic and the others colourless.

STREPTOTHRIX A

This organism was isolated on four occasions from unfiltered Thames water and closely resembles the oöspora Metchnikow of Sauvageau and Radau, also a plant described by Macé, which he erroneously considers identical with Cladotrix dichotoma of Cohn.

Morphology—The cultures are so firm and adherent that cover glass preparations are difficult to make. Preparations show fine filaments, with branches ramifying in all directions. There is no regularity in the branches, which are more numerous in some filaments than in others, or in different parts of the same filament. They arise as a small lateral bud at right angles to the axial stem but may rapidly incline at an angle to the mother stem and become more or less wavy or curled. The threads vary somewhat in thickness, Sauvageau and Radau explain this as being due to two threads running side by side for some distance. This explains the appearance in some cases, but in others it is certainly due to difference in thickness of the filaments themselves. This is all that can be seen of their structure when stained by gentian violet or fuchsine, but if stained by methylene blue, or still better by Gram's method, it is at once seen that the filaments are not homogeneous, they are irregularly broken up into stained and unstained portions, so as to resemble streptothrix forms, long and short rods, and coccus forms. This appearance is seen also in the fresh state and in cultures of all ages. This is undoubtedly what Cohn and Zopf have described as segmentation into micrococci, bacilli, streptothrix and spirilla. But they never become free, and in my opinion are due simply to an irregular distribution of the protoplasm, because I have seen all stages of their formation, from scarcely perceptible granularity to the most perfect chains of bacilli.

Biology—The organism appears on gelatine plates in two or three days as yellowish white points, gradually increasing in size and forming a fairly prominent button like colony with a matt surface and rounded outline. The gelatine surrounding the colony assumes a brown colour to the extent of about two millimetres, afterwards darkening almost to black. Under the microscope the colony appears as a dark brown mass, opaque in the centre, the margins consist of a confused network of threads, which is rather looser at the periphery. In about a week it forms a brownish white, tough, coherent skin slightly sunken owing to liquefaction of the gelatine, and the skin can be removed *en masse*. In puncture cultivations there is a brownish white growth on the surface, which may afterwards become somewhat wrinkled, but which never reaches the walls of the tube. Along the needle track there are a few indistinctly contoured colonies in the upper part, which with a lens are frequently seen to have a radial arrangement. The gelatine is stained brown, but the colour never extends to any depth in the gelatine. Liquefaction begins in about a week, but is slow and incomplete. On agar agar it forms discrete brownish white colonies which also produce the dark discolouration of the medium to which the culture is very firmly adherent. The condensation fluid is stained brown. In nutrient bouillon kept in the incubator at 35°C it grows very slowly, forming isolated colonies which do not render the fluid cloudy. These colonies consist of small rounded flakes which collect at the bottom of the culture tube. When one of these flakes is transferred to a slide it is seen to consist of a dense mass of filaments, which can only be distinguished at the periphery. The whole fluid is stained a deep brown.

CLADOTHRIX B

This was also obtained from Thames water, and presents several marked differences from the preceding variety.

Morphology—In gelatine cultures we see long filaments which may consist of two or more relatively shorter threads and may show remarkable tortuosity. As preparations are more easily made than in the case of the preceding organism the branches are very distinctly seen, and close observation shows that the branching is pseudo-dichotomous. The branches start as lateral buds, which are not necessarily at right angles to the parent stem and may exceed the latter in length. In many preparations a colourless sheath, about four times as wide as the protoplasmic portion, may be demonstrated, but it remains unaffected by any of the ordinary stains. As in Streptothrix A, methylene blue or Gram's stain show the so called segmentation very distinctly. But in agar and bouillon cultures, especially if young filaments consist of large sausage-shaped bacilli stuck together and connected by a colourless sheath. The filaments are not of uniform width and the extremities may present club-shaped swellings. In some places the unstained portion of the filament is seen to be much wider than at others and there may be a series of these swellings separated by intervening contractions which are deeply stained. Therefore I take to be simple dilatations of the sheath.

Biology—The organism grows fairly rapidly in gelatine plate cultivations. About the fourth day the plate is dotted with white rounded, coherent colonies which have an uneven surface and under the microscope appear dark and opaque. Two days later the margin is seen to consist of a meshwork of threads. In puncture cultivations a grey wrinkled layer seen on the surface, which during the next few days becomes more flattened and sometimes shows concentric rings. There is luxuriant growth along the puncture in the form of a white streak. Liquefaction begins in five or six days and extends gradually downwards, the liquefied gelatin being turbid and opaque. On agar agar there is rapid development of a broad grey shining band, the margins of which show transverse striation. Potato cultures are peculiar. At first there is rapid and abundant development of a shaggy raised, colourless sometimes opalescent growth, which in the course of a few days becomes covered with a pasty skin; afterwards subsides to the bottom of the tube. Bouillon remains clear, but a few fine flakes are deposited at the bottom, consisting of chains of large bacilli bent on to each other at an angle.

STREPTOTHRIX C

This organism was isolated from the saliva of a healthy individual. Its morphology is similar in every respect to that of Streptothrix A, but in addition there are certain threads which correspond to Comidia, they are usually short and thick and occasionally branched. The process of segmentation is thus. The filament swells somewhat and becomes slightly granular, the contour then becomes sinuous, there is an appearance of segmentation into coccus like bodies or spores. After this there is apparently no change for two or three days, and then suddenly the spores become liberated. They may be quite round, but are usually rather longer in one diameter. I have not observed the development of these spores into fresh filaments, but have no doubt that under suitable conditions this would take place.

Biology—In plate cultivations growth is slow. In four days we see a small round, shiny white colony, not raised above the surface. Under the microscope it appears dark brown, and later a thick felted arrangement of threads is seen at the periphery. In stroke cultures there is a grey ribbon like band with smooth edges, very shortly a white chalky streak appears in the centre of the culture, which increases with the development of the organism but always leaves a narrow margin of grey. This chalky portion is at first firmly adherent to the subjacent medium, but about the fifth day it can be removed as a white powder and is found to consist exclusively of oidia and oidiospores. Liquefaction begins about the same time and advances rapidly. Stab cultures are grey, with an irregular and pitted surface, and in the centre there is the same white chalky appearance. Along the puncture there is a good development of numerous closely arranged but isolated colonies. Agar agar cultures kept in the incubator at 37°C consist of isolated grey plaques much raised at the edges and depressed in the centre. At this temperature no spores are formed, but if kept at the ordinary temperature the white chalky appearance is quickly developed. In bouillon cultures there are some flaky masses

CHISLEHURST, SIDCUP AND CRAY VALLEY
COTTAGE HOSPITALA CASE OF FRACTURE WITH DISLOCATION IN THE
CERVICAL REGION, NECROPSY

(Under the care of Dr G W DAVIS)

THE following is an interesting account of a case of damage to the spinal cord in the cervical region, with fracture and displacement of parts of the fourth, fifth and six cervical vertebrae. It is probable that the cord was completely crushed by the injury, for from the first the deep reflexes were absent, and it is the absence of these which indicates the extent of the injury. There can be no doubt that the decision not to operate in the case of this patient was the correct one. The statistics of operation for paraplegia dependent on injury to the cervical spine are decidedly against any interference, especially in recent cases.

W G H— a sawyer aged twenty-one, was in a boat-swing on May 7th, 1892, with a companion. The swing was descending, and W G H— in the higher seat, let go the propelling rope to save his hat. In the act of leaning over the side to again secure the rope he was struck on the forehead by the first of the swing shores, this blow threw him across the swing, which then carried him to the further support, by which he was hurled to the ground, alighting on his head. The accident happened at 2.30 P.M. He was unconscious for an hour, his nose bled. He was thought to be drunk by the bystanders and was carried twenty feet and laid on the grass. A medical man who was present had him conveyed to the hospital. Dr. Davis was sent for at 5 P.M. and saw him at 5.20 P.M., about three hours after the accident. On admission the man was found to be very muscular and heavily built, with fair complexion. He was very collapsed but conscious. The pulse was heaving and slow (48), the head and face were markedly cyanosed, the smell, taste and hearing were good, the tongue could be protruded straightly, deglutition was good, the pupils were equal, they were contracted and did not react to light. No lesion was discovered on the head, except the bruise over the right frontal protuberance, there was partial abduction of the arms which were externally rotated, and the forearms and wrists were so flexed that the fingers touched the upper part of the deltoid on the same side, this position of the arms was involuntary. There was impairment of sensation throughout both upper extremities, localisation of feeling was most marked over the region of the deltoid. There was much pain over the lower cervical region, over the right scapular region, and down the right arm, there was a feeling as of a weight on the right arm and the patient continually reiterated his request that the weight might be removed, there was complete motor and sensory paralysis from and below a line drawn on a level with the lower border of the second costal cartilage, bordering and above this line was a hyperæsthetic zone of about one inch in breadth, but extending so far as it was possible to test, all around the body. The skin reflexes were absent, with the exception of the plantar reflex, slight stimulation elicited no response, but if the finger nail was drawn sharply and firmly across the sole of the foot the great toe was, after a distinct interval momentarily abducted to the extent of about one eighth of an inch. The conjunctival reflex was normal. The knee-jerk and ankle-clonus were not obtainable. Fæces had been passed involuntarily between the time of accident and admission. There was partial priapism. His temperature was 96°. Four ounces of dark coloured urine were drawn off and found to contain a trace of albumen. The respiration was altogether diaphragmatic. At 11 P.M. some vomiting occurred, besides much food stuff, which contained a teaspoonful of blood clot. The patient asked frequently to have his head raised—that is, that the head might be so extended as to tilt the chin and arch the neck. A cervical cushion, as suggested by Hilton, was tried, but could not be endured.

May 8th.—The shock seemed to have passed off. Cyanosis was much less marked. The zone of hyperæsthesia was not so well defined. Pain was complained of in the abdomen when the urine was drawn off. The urine was normal. Bullæ had developed over the phalangeal end of the left index metacarpal and over the inner side of the left gastrocnemius. Towards evening he said "The pain at the right arm is better and comes and goes, but the pain in the neck keeps jumping." Temperature at 8 A.M. 100°, at 8 P.M. 98.4°.

8th.—An enema of gruel and oil was administered without effect until followed by gentle massage over the course of the

colon. Towards evening the susceptibility to noises increased. Temperature at 8 A.M. 99° F, at 8 P.M. 98.4° F.

10th.—Since the previous night he had been wandering at times. The sensitiveness to sound was increased, the discomfort and pain in the neck were such that no position of the head was bearable, an icebag was applied to the head, an enema followed by massage led to a motion of the bowels. Temperature at 8 A.M. 97.4° F, at 8 P.M. 99° F.

11th.—Deep pressure over the trunk was distinctly felt, but could not be localised, he asked for the bedpan, but passed nothing but flatus, as on all previous days. A consultation of the medical officers of the hospital was held with a view to decide as to whether it would be desirable to interfere either by extension or by operation, or to place the patient in a fixed apparatus and it was decided that it would be rather to the patient's interest to follow an expectant line of treatment, placing him in a fixed apparatus. Temperature at 8 A.M. 99° F, at 8 P.M. 101° F.

12th.—A cushion under the neck was now well borne. There was a feeling over the trunk as of the pattering of mice running over it. There was some redness of the right elbow. Temperature at 8 A.M. 96.4°, at 8 P.M. 101°.

13th.—Towards the evening he complained of being 'short of wind,' and occasionally moved the muscles of the neck in laboured inspiration. Slight cyanosis was present about the lips and the ears. Temperature at midday, 100.2°, at 8 P.M. 102°.

14th.—Inspiration was laboured all day, the difficulty increasing as the day advanced, accompanied by a perpetual nodding of the head from the traction of the neck muscles at each inspiration. To the rhythm of this nodding he imagined that he heard the ringing of church bells (he was one of the ringers of the church bells in his parish). Several times in his delirium he threatened to commit suicide. Temperature at 8 A.M. 98°, at 8 P.M. 96°. There was some difficulty in swallowing late in the evening.

15th.—Died quietly at 2.30 A.M.

Necropsy—Rigor mortis was well marked, there was much post mortem hypostasis. Palpation with care over each separate spinous process failed to discover the site of the lesion. On reflecting the muscular flaps from the neural arches infiltration with extravasation into tissues hardened by coagulated inflammatory exudation was remarked opposite the left lamina of the fifth cervical vertebra, which was seen to be fractured about its centre in such a manner as to leave a gap of a quarter of an inch on the left side of the fifth arch. The neural arches of all the vertebrae were uncovered, but no further fracture was found, and the vertebrae from the atlas to the sixth cervical were removed for further examination. On reflection of the scalp a large discoloured patch was found just behind the right parietal eminence. On removal of the vertex the dura mater was found glued to the bone opposite the site of the bruised scalp and also at the corresponding part on the inner surface of the cerebrum, the medium of connexion being fresh lymph. The brain itself appeared to be healthy but there was some fluid of a carmine tinge in the lateral ventricles. Further examination of the removed vertebrae showed the following. A longitudinal conjugate section through the vertebrae and included cord showed that the spinal canal was diminished by two-thirds of its extent through the projection backwards of the body of the fifth cervical vertebra, which was wedge shaped and detached from the anterior common ligament. The cord opposite the site of pressure was greatly diminished in bulk and diffident. Examination of the dry bones disclosed the following fractures—Fourth vertebra fracture of the right transverse process. Fifth vertebra fracture of the left lamina and crushing and starting of the vertebral body. Sixth vertebra: fracture of the projecting lip on the superior surface of the vertebral body on the left side, detachment of the superior posterior edge of the body. No visceral lesion was discovered. The remainder of the spinal canal was not opened for lack of time.

Remarks by Dr DAVIS.—Most of the symptoms in the case above reported have already been accounted for and their significance recognised. The contraction of the pupils in lesions above the second dorsal nerves, the fall of blood pressure from disconnection of the vaso-motor nerves from the higher centres, the position of the arms in lesions involving the sixth cervical nerves. Every case may, however, be the means of bringing about a more exact knowledge of some one or more particular symptoms. The case reported would seem to assist in the elucidation of three points. 1. Although

and well fed, but he frequently got wet through, and his hours of work were very long. He had never taken more than a moderate amount of alcohol until about a fortnight previously, but since then he had taken much rum. He had rheumatic fever at the age of twenty one and had had winter cough for many years. Seven days before admission he got wet through early in the morning and kept his wet clothes on all day. Two days later he awoke complaining of great pain in the abdomen, and though he got up the pain increased so much that he had to return to bed. During the day he shivered several times, but had no distinct rigor, there was also some diarrhoea. That night he was in much pain and was unable to sleep, and with every breath he felt a sharp stabbing pain in the right side, and his cough (which he had had about two months) became more troublesome. The next morning he consulted a medical man. He was told that he had pleurisy and that he should go to bed. A poultice was applied to the side. That night he was very restless and was slightly delirious. The next two days he continued in much the same condition, but his cough grew worse, the amount of sputum increased and some of it was said to have been black. Each evening delirium came on and he could not sleep. On the 10th he was delirious, got out of bed and walked down stairs. When the medical man saw him, he said the patient had "inflammation of the lungs" and advised his friends to take him to a hospital, the next day he was admitted to the Royal Free Hospital.

Nov 11th.—The patient lies on his back in bed, though he can lie on the side. His face is somewhat cyanosed. Temperature 100.6°, pulse 100, respiration 38. He complains of pain, stabbing in character, in the right side, much worse on breathing deeply. He has a cough, which is not severe, the sputum is viscid and in parts it is "rusty". The respiration is short and shallow. On percussion the note on the left side is normal, on the right in front it is resonant also, but in the axilla and behind there is dulness. On auscultation expiration is slightly prolonged all over the chest, due to the emphysema present, in the right axilla the breath sounds are weak and at the back on the right side there is well marked bronchial breathing, best heard to the inner side of the angle of the scapula, and here there is well marked pectoriloquy. No adventitious sounds are to be heard. Vocal resonance is diminished in the right axilla, but is increased at the back on the right side. The heart's apex beat is in the fifth space in the nipple line, but is very indistinctly felt. The heart sounds are normal but faint. The appetite is poor, there is much thirst, the tongue is coated with white fur. The urine has a specific gravity of 1018 and contains no albumen. He was put on a milk diet and five grains of carbonate of ammonium were prescribed every four hours.

12th.—He has had a fairly good night, though delirious at times. He tries to get out of bed, but answers fairly well questions put to him.

14th.—He continues in the same condition with much delirium and but little sleep. In the right axilla the breath sounds are bronchial and there is increased vocal resonance. Behind at the right base some fine crepitations can be heard. The temperature has fallen to normal.

16th.—Condition practically unchanged. Crepitations are heard in the right axilla. The expectoration has increased and the sputum is more markedly "rusty".

18th.—He sleeps better, but complains of his feet feeling cold. The cough is much better and there is no "rusty" sputum. The delirium has gone.

23rd.—The bronchial breathing has entirely disappeared, but there is some dulness at the right base.

26th.—At six o'clock this morning the temperature rose to 101.4°. He complains of a sharp pain in the left axilla, but no physical signs can be discovered. He has had slight shivering this morning. In the evening the temperature fell about a degree.

27th.—He had a rigor about noon, and the temperature rose to 103.4°, but fell rapidly to 98, with profuse sweating. He felt a severe pain in the left axilla.

28th and 29th.—On each day he felt a chill, and the temperature rose to over 103° falling again rapidly. No abnormal physical signs can be detected in the chest. He was delirious at night.

30th.—At mid day he had a rigor, the temperature rising to 102°. He was ordered five grains of quinine every six hours. The sputum was examined for tubercle bacilli, but none were found.

Dec 1st.—The temperature is 103.2°, no abnormal signs

can be discovered in the lungs. The first heart sound has a blowing character at the base. In the afternoon he became very drowsy, and his breath was very offensive. Exploratory needles were inserted behind in the seventh and eighth spaces, and a little bloodstained fluid was withdrawn. The temperature has risen to 105.4°.

3rd.—He is very drowsy. The tongue is dry and brown, but the breath is less offensive. The legs and arms are cold and bluish. The pupils are unequal. There is external strabismus. No optic neuritis. A double blowing murmur can be heard at the base of the heart. He sank gradually. During the day the temperature rose until it was over 106°. In the night he had clonic spasms of the arms and legs, and died.

Necropsy performed by Dr ANDREWES.—Brain. In the subarachnoid space there was much exudation of semi-purulent lymph with excess of fluid. The meningitis was well marked on the convexity, but was still more marked at the base of the brain. There was no actual pus. The brain itself was healthy. Heart. On that segment of the aortic valve which lies opposite the right coronary artery there was a mass of greenish vegetation, soft and friable. It was as large as a small hazel nut and into it projected a small aneurysm of the valve. The two other cusps of the valve were healthy. The aorta showed slight fatty degeneration of the intima and had not been infected by the vegetation. Lungs. Both were very congested and oedematous. On the surface of the lower lobe of the left lung there was a small whitish patch, which was sharply outlined. The lower lobe of the right lung had nearly recovered from the pneumonia but close to the base, in the centre of the lobe, there was a small cavity (about three-quarters of an inch in diameter) full of pus, apparently sweet. On the right side there were dense, pleural adhesions, but there were none on the left. The other organs were healthy.

We are also indebted to Dr Andrewes for this further note with regard to the microscopical and bacteriological examination of some of the parts removed. "Cover glass preparations made from the aortic vegetation showed numerous organisms all of one kind—viz., short bacilli, with bipolar staining, often arranged end to end or even in short chains. At first it was thought that there might be diplococcus pneumoniae, but it was not possible to demonstrate any very distinct capsule, and on the whole they appeared to be short bacilli rather than diplococci. Sections of the vegetation showed these same organisms, arranged in sharply defined masses, here and there throughout its thickness. Numerous cultivations made from a fragment of the fresh vegetation both on gelatin and on agar agar, remained perfectly sterile, not a single colony grew. The growth of the organism under aerobic conditions was not tested. The meningeal exudate contained numerous pus cells and a few micro-organisms of various sorts. Cultivations yielded various species, including staphylococcus pyogenes aureus. No one organism predominated, and no satisfactory conclusion could be drawn."

Remarks by Dr SAINSBURY.—The patient was admitted on the seventh or eighth day of the disease, on the eleventh day the temperature became normal and on the fourteenth day the disease appeared to have departed. After an interval of seven or eight days there occurred a sudden rise of temperature and thence onwards till death seven days later an irregular pyrexia was maintained. The delirium reappeared with the return of fever and the disease assumed a typhoid character. A probable diagnosis of malignant endocarditis was made which was enforced by the discovery of the double bruit at the base, but it must be confessed this bruit was very feeble. The case, it has been remarked, shows in its etiology a sequence of events frequently witnessed—viz., lobar pneumonia—malignant endocarditis also in the further occurrence of meningeal trouble it is not unusual, but I would point to the presence of a small abscess in the centre of the pulmonary lobe as a rare event in pneumonia. I would also draw attention to the occurrence of one attack of rheumatic fever at the age of twenty one, which, though the lesions of the aortic valve appeared at the necropsy to be wholly recent, may possibly have caused slight mischief to this valve, the subsequent and fatal endocarditis being grafted upon a slight damage of this kind. This is supposition only, but the precedence of an illness with marked endocardial affinities should not be overlooked, and it is clear that an acute inflammation such as was here found might obliterate all evidence of an old standing inflammatory residuum.

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CERVICAL REGION, NECROPSY

(Under the care of Dr G W DAVIS)

THE following is an interesting account of a case of damage to the spinal cord in the cervical region, with fracture and displacement of parts of the fourth, fifth and six cervical vertebra. It is probable that the cord was completely crushed by the injury, for from the first the deep reflexes were absent, and it is the absence of these which indicates the extent of the injury. There can be no doubt that the decision not to operate in the case of this patient was the correct one. The statistics of operation for paraplegia dependent on injury to the cervical spine are decidedly against any interference, especially in recent cases.

W G H— a swayer aged twenty one, was in a boat-swing on May 7th, 1892, with a companion. The swing was descending, and W G H—, in the higher seat, let go the propelling rope to save his hat. In the act of leaning over the side to again secure the rope he was struck on the forehead by the first of the swing shores, this blow threw him across the swing, which then carried him to the further support, by which he was hurled to the ground, alighting on his head. The accident happened at 2.30 P.M. He was unconscious for an hour, his nose bled. He was thought to be drunk by the bystanders and was carried twenty feet and laid on the grass. A medical man who was present had him conveyed to the hospital. Dr Davis was sent for at 5 P.M. and saw him at 5.20 P.M., about three hours after the accident. On admission the man was found to be very muscular and heavily built, with fair complexion. He was very collapsed but conscious. The pulse was heaving and slow (48), the head and face were markedly cyanosed, the smell, taste and hearing were good, the tongue could be protruded straightly, deglutition was good, the pupils were equal, they were contracted and did not react to light. No lesion was discovered on the head, except the bruise over the right frontal protuberance, there was partial abduction of the arms, which were externally rotated, and the forearms and wrists were so flexed that the fingers touched the upper part of the deltoid on the same side, this position of the arms was involuntary. There was impairment of sensation throughout both upper extremities, localisation of feeling was most marked over the region of the deltoid. There was much pain over the lower cervical region, over the right scapular region, and down the right arm, there was a feeling as of a weight on the right arm and the patient continually reiterated his request that the weight might be removed, there was complete motor and sensory paralysis from and below a line drawn on a level with the lower border of the second costal cartilage, bordering and above this line was a hyperæsthetic zone of about one inch in breadth but extending so far as it was possible to test, all around the body. The skin reflexes were absent, with the exception of the plantar reflex, slight stimulation elicited no response but if the finger nail was drawn sharply and firmly across the sole of the foot the great toe was after a distinct interval momentarily abducted to the extent of about one eighth of an inch. The conjunctival reflex was normal. The knee-jerk and ankle-clonus were not obtainable. Fæces had been passed involuntarily between the time of accident and admission. There was partial priapism. His temperature was 96°. Four ounces of dark coloured urine were drawn off and found to contain a trace of albumen. The respiration was altogether diaphragmatic. At 11 P.M. some vomiting occurred, besides much food stuff, which contained a teaspoonful of blood clot. The patient asked frequently to have his head raised—that is, that the head might be so extended as to tilt the chin and arch the neck. A cervical cushion, as suggested by Hilton, was tried, but could not be endured.

May 8th.—The shock seemed to have passed off. Cyanosis was much less marked. The zone of hyperæsthesia was not so well defined. Pain was complained of in the abdomen when the urine was drawn off. The urine was normal. Bullæ had developed over the phalangeal end of the left index metacarpal and over the inner side of the left gastrocnemius. Towards evening he said, "The pain at the right arm is better and comes and goes, but the pain in the neck keeps jumping." Temperature at 8 A.M., 100°, at 8 P.M. 98.4°.

9th.—An enema of gruel and oil was administered without effect until followed by gentle massage over the course of the

colon. Towards evening the susceptibility to noises increased. Temperature at 8 A.M., 99° F., at 8 P.M., 98.4° F.

10th.—Since the previous night he had been wandering at times. The sensitiveness to sound was increased, the discomfort and pain in the neck were such that no position of the head was bearable, an icebag was applied to the head, an enema followed by massage led to a motion of the bowels. Temperature at 8 A.M., 97.4° F., at 8 P.M., 99° F.

11th.—Deep pressure over the trunk was distinctly felt, but could not be localised, he asked for the bedpan, but passed nothing but flatus, as on all previous days. A consultation of the medical officers of the hospital was held with a view to decide as to whether it would be desirable to interfere either by extension or by operation, or to place the patient in a fixed apparatus, and it was decided that it would be rather to the patient's interest to follow an expectant line of treatment, placing him in a fixed apparatus. Temperature at 8 A.M., 99° F., at 8 P.M., 101° F.

12th.—A cushion under the neck was now well borne. There was a feeling over the trunk as of the pattering of mice running over it. There was some redness of the right elbow. Temperature at 8 A.M., 96.4°, at 8 P.M., 101°.

13th.—Towards the evening he complained of being 'short of wind,' and occasionally moved the muscles of the neck in laboured inspiration. Slight cyanosis was present about the lips and the ears. Temperature at midday, 100.2°, at 8 P.M. 102.

14th.—Inspiration was laboured all day, the difficulty increasing as the day advanced, accompanied by a perpetual nodding of the head from the traction of the neck muscles at each inspiration. To the rhythm of this nodding he imagined that he heard the ringing of church bells (he was one of the ringers of the church bells in his parish). Several times in his delirium he threatened to commit suicide. Temperature at 8 A.M., 98°, at 8 P.M., 96°. There was some difficulty in swallowing late in the evening.

15th.—Died quietly at 2.30 A.M.

Necropsy—Rigor mortis was well marked, there was much post mortem hypostasis. Palpation with care over each separate spinous process failed to discover the site of the lesion. On reflecting the muscular flaps from the neural arches infiltration with extravasation into tissues hardened by coagulated inflammatory exudation was remarked opposite the left lamina of the fifth cervical vertebra which was seen to be fractured about its centre in such a manner as to leave a grip of a quarter of an inch on the left side of the fifth arch. The neural arches of all the vertebrae were uncovered, but no further fracture was found, and the vertebrae from the atlas to the sixth cervical were removed for further examination. On reflection of the scalp a large discoloured patch was found just behind the right parietal eminence. On removal of the vertex the dura mater was found glued to the bone opposite the site of the bruised scalp and also at the corresponding part on the inner surface of the cerebrum, the medium of connexion being fresh lymph. The brain itself appeared to be healthy but there was some fluid of a carmine tinge in the lateral ventricles. Further examination of the removed vertebrae showed the following: A longitudinal conjugate section through the vertebrae and included cord showed that the spinal canal was diminished by two thirds of its extent through the projection backwards of the body of the fifth cervical vertebra, which was wedge shaped and detached from the anterior common ligament. The cord opposite the site of pressure was greatly diminished in bulk and diffident. Examination of the dry bones disclosed the following fractures—Fourth vertebra fracture of the right transverse process. Fifth vertebra fracture of the left lamina and crushing and starring of the vertebral body. Sixth vertebra—fracture of the projecting lip on the superior surface of the vertebral body on the left side, detachment of the superior posterior edge of the body. No visceral lesion was discovered. The remainder of the spinal canal was not opened for lack of time.

Remarks by Dr DAVIS—Most of the symptoms in the case above reported have already been accounted for and their significance recognised. The contraction of the pupils in lesions above the second dorsal nerves, the fall of blood pressure from disconnection of the vaso-motor nerves from the higher centres, the position of the arms in lesions involving the sixth cervical nerves. Every case may, however, be the means of bringing about a more exact knowledge of some one or more particular symptoms. The case reported would seem to assist in the elucidation of three points. 1. Although

the deep reflexes and most of the skin reflexes are lost in complete transverse lesions of the cervical cord, yet that the plantar reflexes may and often do persist is shown by the case just narrated, and by two cases in St Thomas's Hospital Reports, vol xx., in one of which the cord was actually divided. The remaining points I would put as questions 2 Would not the retention of urine occurring in these cases be perfectly well accounted for if it were understood that the proper muscles of the bladder were paralysed, an atony of the bladder resulting? ("The nerves to the bladder (and vagina) [from the pelvic plexuses] contain a larger proportion of spinal nerves than those furnished to the other pelvic viscera.") 3 Would the retention of feces be accounted for by the failure on the part of the colon to pass the feces on to the rectum, such failure being brought about by paralysis of the intestinal muscles and the automatic plexuses from continual stimulation by the excess of carbonic acid always present in the blood?

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY

The Absence of Sugar from Normal Human Urine—Two Cases of Knee trouble with difficulty in Locomotion depending upon an Elongation of the Ligamentum Patellæ, treated by Transplantation of the Tubercle of the Tibia

AN ordinary meeting of this Society was held on Feb 14th, the President, Sir Andrew Clark, in the chair.

Sir GEORGE JOHNSON communicated a paper by Mr G STILLINGFLEET JOHNSON on the Absence of Sugar from Normal Human Urine. Mr Johnson stated that all the tests for sugar in common use depended upon its reducing action, thus in Fehling's test the quantity of sugar was gauged by the amount of cupric oxide reduced by a known volume of the solution. All human urine—normal as well as pathological—exerted some reducing action upon cupric salts in boiling alkaline solutions. Insufficient familiarity with this fact not infrequently led to the conclusion that sugar was present in a sample of urine simply because a certain amount of cupric oxide had been reduced thereby. Non saccharine urines of high specific gravity were especially liable to be pronounced saccharine, because such urines, being highly concentrated, were richer than usual in the normal reducing agents. The object of the author of the paper was to indicate the nature of these "normal reducing agents." A full account of the chemical details of his experiments in connexion with this subject will be found in the Royal Society's Proceedings, vol. xlii., pp 493 to 534. He agreed with Dr Pavy in attributing one-fourth of the reducing action of normal human urine to the uric acid which it contained. He was, however, of opinion that normal human urines were also largely non saccharine, and in proof of this he described his method of separating the kreatinin of urine from that secretion, which differed from all methods hitherto described in effecting a complete removal of that base from the unconcentrated secretion by fractional precipitation with mercuric chloride. The properties of the kreatinin thus isolated were different from those of any base hitherto described, and this difference was especially remarkable when its reducing action was compared with that of other kreatinins. These differences in properties between bases having the same empirical formula were attributed to differences in atomic arrangement—isomerism. Although the method adopted—precipitation by mercuric chloride—could not remove sugar from solution in the urine, the filtrate from the mercurial salt of kreatinin was found in normal urines to be destitute of reducing action, and the determination of the quantity of kreatinin present (by weighing its mercury salt), conjoined with a careful estimation of the reducing action of the kreatinin itself, proved that the entire reducing action of a normal urine might be accounted for by the uric acid and kreatinin which it contained, one fourth of the whole reduction being due to uric acid, and the remaining three fourths to the kreatinin. A beautifully crystallised specimen of the reducing kreatinin of urine was exhibited. In confirmation of Mr Johnson's conclusion that normal human urine was non saccharine, C Schwartz has described a very

delicate test for sugar which gives negative results with normal human urine.¹ This test was exhibited during the evening. It was performed as follows—The urine was completely precipitated with lead acetate and filtered. The filtrate was rendered alkaline with potash and a solution of phenylhydrazine added. The mixture was well shaken and boiled. An orange colour developed, which was followed by an orange precipitate when excess of acetic acid was added if sugar were present. Schwarz states, and Mr Johnson had confirmed his statement, that normal urines gave a negative result with this test. The conclusion was that sugar was absent from normal urine.—Dr WILLIAM HUNTER differed from Mr Johnson in regard to the limitation of reducing action to the uric acid and kreatinin, believing that there were other matters allied to hydrocarbons which effected the same change. He referred to a test with benzoyl chloride which threw down a compound of itself with carbohydrates. It was performed by adding to urine a mixture of 40 c.c. liquor potassæ and 5-10 c.c. benzoyl chloride. He considered that all normal urines contained carbohydrates more or less allied to glucose. One constituent, glycuronic acid, derived from certain articles of diet and drugs such as Borneo camphor, acted as a strong reducing agent. The second, known as the furfural test, consisted in adding to a sample of urine a 15 per cent. solution of a naphthol with 0.5 cc of sulphuric acid, the presence of carbohydrates being indicated by a delicate violet colour. He thought that Mr Johnson's conclusions were only applicable to quantities of sugar sufficient to have a pathological significance, and he did not interpret them as proving the complete absence of this substance in healthy urine. Too much importance should not be attributed to the negative indications of the phenylhydrazine test, as he considered that the reducing capacity of the healthy urine could not be wholly accounted for by kreatinin and uric acid. He commented on the brilliant appearance of the crystals and contrasted their aspect with that of ordinary commercial kreatinin.—Dr CURNOW stated that he had been able, by means of the phenyl hydrazine test, to detect so small a quantity of sugar as one-tenth of a grain in an ounce of urine. The test was, he thought, sufficiently simple to be used for clinical purposes. He adverted to the peculiar globular form assumed by the particles of the precipitate under high powers of the microscope. He had also added to non saccharine urine solutions of urate of potash and of kreatinin in large quantities, and had found that these bodies did not in the slightest degree interfere with the efficiency of the test. It was on this account that he strongly recommended it for ordinary clinical uses.—Dr HAIG welcomed the new test, and quoted a case in which Fehling's solution continued to be reduced by the urine while the patient adhered to a nitrogenous diet, but disappeared on his returning to a mixed diet, and inferred that the reduction of copper was not produced by sugar but by the excess of the nitrogenous extractives.—Dr GEORGE HARLEY referred to the statement made about thirty years ago by Bence Jones that all normal urines contained a trace of sugar, which had been vigorously disputed by other observers, some attributing the reducing power to uric acid, some to kreatinin, and others to undetermined hydrocarbons. Udransky first precipitated the reducing agents by means of benzoyl chloride, Wlenski later separated this precipitate into starchy matters and a trace of grape sugar. He said that Fischer anticipated Schwartz in publishing the phenylhydrazine test. He still adhered to the idea that normal urines were not always free from traces of sugar, its presence depending on the individual and the diet.—Sir G JOHNSON, in reply, said that he had not denied the presence of carbo-hydrates but only of sugar in normal urine. He had separated the reducing agents after measuring the reducing power of the urine and had found that the uric acid and kreatinin exactly accounted for this, leaving no room for any other reducing agents. He accounted for the purity and excellence of the kreatinin crystals exhibited by his methods of separating them which allowed the substance to precipitate gradually from the filtrate after various impurities, such as uric acid, had been brought down immediately by the addition of the mercuric chloride.

Mr WALSHAM described two cases of Knee Trouble depending upon an Elongation of the Ligamentum Patellæ. The first case occurred in a young woman twenty one years old. She complained of pain and difficulty in walking and that she was liable to fall suddenly without warning from the patella slipping over one or other condyle. The falls were so frequent and unexpected that she was incapacitated for her duties as

a housemaid. The patella could be dislocated laterally on either condyle, and with the knee bent at an angle of 90° it could be pushed up on to the front of the condyles of the femur, so that its anterior surface looked upwards instead of forwards. The elongated ligament was shortened by trans-planting the tubercle of the tibia about one inch lower down the shaft. The wound healed by the first intention, and when the patient was last seen the knee joint appeared normal and the patella could no longer be dislocated laterally or pushed abnormally upwards. The second case was in all respects similar and was treated in the same manner. Mr Walsbam had not found the condition described in the surgical text books and in those special works on joint disease that he had consulted, nor was he aware that the transplantation of the tubercle of the tibia for shortening the patellar ligament had been hitherto done. He found that Dr Shaffer of New York had described in the fourth volume of the "Transactions of the American Orthopedic Association" seven similar cases of elongation of the patellar ligament with knee trouble during locomotion. In these cases no operation was performed and the results obtained by instrumental treatment were not satisfactory. Quite recently Mr Walsbam had met with a third case in the Orthopedic Department at St Bartholomew's Hospital and concluded that the condition was not so rare as he had at first believed it to be. He summarised the signs and symptoms in his own and Dr Shaffer's cases and gave his reasons for shortening the ligament by transplanting the tubercle of the tibia instead of excising a portion of the ligament and attempting its union by suture. He thought transplantation of bone with ligaments or tendons attached, might be found suitable for the treatment of other deformities. He had recently transplanted the posterior tubercle of the os calcis with the tendo Achillis attached, for overcoming the elongation of the calf muscles in paralytic talipes calcaneus. A condensed account was appended of Dr Shaffer's published cases.—Mr GODLEE asked whether cases of lateral dislocation of the patella were not of the kind described, and referred to three cases which had come under his observation complicated with knock knee.—Mr KEETLEY mentioned two cases in which there had been abnormal lateral mobility of the patella with tendency to outward dislocation on kneeling. In one case he had removed a wedge of bone from the patella and shortened the internal aponeurosis.—Mr WALSHAM, in reply, said that he had heard from Mr Greig Smith of Bristol of a similar case under his care in which the ligamentum patellæ had been shortened by means of herring stitch sutures.

MEDICAL SOCIETY OF LONDON

A New Method of Treating Oblique Fractures of the Femur without Shortening.—The Physiology of Death from Traumatic Fever, a Study in Abdominal Surgery

An ordinary meeting of this Society was held on Feb 13th, the President, Mr Hutchinson, in the chair.

Mr KEETLEY described an operation for the prevention of shortening and other forms of mal union after fracture, especially oblique fracture of the long bones. It essentially consisted in the insertion of two pins of steel, thickly plated with silver, one into each fragment of the bone, not too near the fracture. Each pin had an arm at right angles to it. These two arms lying outside the skin, were lashed together with silver wire after the fracture had been accurately adjusted. No incision was made, each pin being passed in through a simple puncture. The bones were perforated for the pins by Mr Keetley's patellar bradawl (with a blade three inches and a half long). Two cases were described and one patient shown. Both had sustained fracture of the femur. In one the previous shortening had amounted to one inch and in the other to over two inches. One patient fell and refractured the bone two months after operation but without reappearance of the shortening. In this case the pins had been left *in situ* for six weeks. No pain or rise of temperature occurred in either case. Mr Keetley recommended that the operation should not be resorted to until ten days or a fortnight after fracture, so that there might be time to see what results ordinary modes of treatment were likely to give and also for effused blood to be either absorbed or organised. Of course strict antiseptic precautions should be used, but in an operation which made merely two punctures and required only two or three simple instruments entirely of plated and polished metal such precautions were exception-

ally easy.—Mr HUTCHINSON thought the method suggested was bold, ingenious and likely to be beneficial in some cases, but for his own part he adhered firmly to the long splint with anæsthesia and rather over-extension to the extent of one inch of lengthening. He did not approve of discarding the perineal band, as was done by some surgeons in modern times.—Mr CRIPPS remarked on the fragility of the pins shown. He thought the cases for which they might be applied were very few, and adverted to the danger of perforation by one fragment in the struggles resulting from the administration of an anæsthetic. The spasmodic contraction of muscles subsided by the third day, when the limb could be put up without any great effort.—Mr OPENSHAW was in accord with the remarks already made by Mr Cripps and thought it was an advantage to have the edge of the splint bare and notched so as to exert extension throughout the limb by bandages rather than by the stirrup alone.—Mr KEETLEY, in reply, said he intended the method only for special cases. The want of rigidity of the pins was more apparent than real, and the power required to keep the fragments in position was not great.

Mr JOHN D MALCOLM read a paper on the Physiology of Death from Traumatic Fever, a Study in Abdominal Surgery. The object of the paper was to show that the phenomena of traumatic fever may be explained without assuming the existence of a poison circulating in the blood, and that the changes produced are brought about by peripheral stimulation of nerves acting on the nervous centres—a view already advocated from another standpoint by Dr Hale White. It was pointed out that every injury brings about a devitalisation of tissue with a contraction of the vessels throughout the body, and it was suggested that the want of fresh blood in the area of stasis is the cause of the contraction of the vessels in fever. Papers by Olshausen¹ and Dr Veschere² were referred to as corroborating Mr Malcolm's view that death from ileus and pseudo ileus is an important factor in abdominal surgery. The mode of death from these conditions was discussed. It was urged that distension of the intestine occurring during fever must cause a great increase in the contraction of the vessels already existing in consequence of the operation. Clinical evidence was adduced that the stronger the heart the slower was its action in fever. This was supported by the observation made by Professor Roy and Dr Adami³ that the heart is stimulated by increased resistance in the vessels, and that the cardiac muscle is sometimes more than able to overcome the increased resistance, but sometimes it cannot do so. The evidence in support of Olshausen's and Dr Veschere's view that pseudo-ileus leads to septicæmia was shown to be defective. It was argued that death from fever begins, not at the heart, but at the periphery, and is due to excessive contraction of the vessels shutting off the blood supply from the various tissues. It was pointed out that the blood supply to the inflamed area must also be diminished when the contraction of the arteries is very great, and that this must cause a return of inflammation of an unhealthy kind. It was further argued that when constriction of the blood vessels occurs a necessity arises for the removal of a portion of the blood, which accounts for the sweating and excess of other excretions, and that destruction of blood necessitates more blood formation but that as long as the vessels are contracting elimination must predominate, hence the emaciation. It was shown that devitalisation of tissue in a wound must also induce a physiological coldness and consequent necessity for increased heat locally, hence more heat is produced. The rest of the body then requires increased thermolysis but as long as the local physiological coldness continues an excessive production of heat takes place, though not necessarily resulting in increased body temperature. It was suggested that in the septic and specific fevers the poison circulating in the system produces a wide spread irritation and partial devitalisation of tissue, and reflexly induces the same effects as were attributed to the local devitalisation due to an injury. In such a case, if albuminuria and suppression of urine occur the resistance to the flow of blood through the kidneys aggravates the fever, and may cause death in the same way as the resistance to the flow of blood through the mesenteric vessels does in a pseudo ileus or in obstruction of the bowels following an abdominal section.—[We propose

¹ Centralblatt für Gynæcologie January 1888.

² Revue de Chirurgie July 1888.

³ The Physiology and Pathology of the Mammalian Heart Phil. Trans., vol cxxxvii B., p 270 1892.

to publish the paper *in extenso* in a future issue]—Dr HALE WHITE thought there was no doubt that in some cases traumatic fever was the direct result of peripheral irritation, and mentioned the rise of temperature associated with the passage of a gallstone or the existence of constipation. He referred also to the rise of temperature in meningeal hæmorrhage, in the status epilepticus and hysterical pyrexia, in all of which the absence of bacteriological influence seemed certain.—Mr HUTCHINSON questioned if in the abdominal cases alluded to the absence of peritonitis could be affirmed.—Mr MALCOLM, in reply, mentioned several cases in which no peritonitis could be discovered after death. Referring to some remarks by Mr Alban Doran, he said he excluded cases in which there was an obvious source of septicæmia.

CLINICAL SOCIETY OF LONDON

Subserous Uterine Hematocoele in a Girl aged eleven.—Lipoma of the Broad Ligament.—Diaphragmatic Hernia in which Death was caused by Vomiting.—Generalised Vaccinia

AN ordinary meeting of this Society was held on Feb 10th, the President, Sir Dyce Duckworth, in the chair.

Mr BARKER described a case of Subserous Uterine Hematocoele in a girl aged eleven, simulating Acute Appendicitis, laparotomy was performed with success. Taking the view that the child was suffering from the latter disease in a most typical form, Mr Barker opened the abdomen in the right linea semilunaris over the cæcum, but found the latter and the vermiform appendix perfectly normal. Some turbid, brownish serum, without lymph, flowed from the direction of the pelvis, and feeling in this direction the right fallopian tube and ovary were found to be swollen and twisted, and when brought into view were seen to be quite black from blood effused under their serous coats. Tracing this effusion inwards it was found to expand into a large subserous hematocoele behind the uterus. This tumour nearly filled the pelvis and corresponded with the swelling felt per rectum before the operation. This brownish serum in the pelvis had probably transuded from it, it was quite smooth on the surface and was inflamed. The condition was now recognised, and it was felt that no attempt should be made to remove the blood tumour. The serum was therefore sponged out and the abdomen was closed in the usual manner. The child made an uninterrupted recovery. On leaving hospital on the thirty first day after the commencement of the last attack the hematocoele, as felt from the rectum and vagina, had diminished in size. The patient was watched for a month or two subsequently, but there was no return of the symptoms suggesting any attempt at very early menstruation. The case was recorded as possessing pathological, clinical and surgical interest, and as being probably a rarity, Mr Barker was unable to find any account of a pelvic hematocoele in a girl so young as the patient in question.—Mr TREVES dwelt upon the difficulties referable to the anatomical site in diagnosing appendicitis, and cited two cases illustrating this. One was that of a boy who exhibited all the classical signs and symptoms of intussusception, but on opening the abdomen to relieve the obstruction the condition was found to depend upon gangrene of the vermiform appendix. This was removed and the patient recovered completely. The other case was diagnosed, after consultation between two medical men, as enteric fever and was sent to the Fever Hospital, being subsequently transferred from there to the London Hospital, where the abdomen was opened in due course and the appendix found glued by inflammatory adhesions to the ileum opposite a Peyer's patch, which may have accounted in part for the close simulation to typhoid fever. After removal of the appendix this case also recovered.—Mr BARKER suggested that one advantage about the otherwise objectionable word "appendicitis" was that it directed attention to the real site of lesion, which the older terms did not.—The PRESIDENT considered that the wrong impression prevalent was due to erroneous teaching, and was to be corrected by an improvement in the direction rather than by the introduction of a new and barbarous term.

Mr TREVES gave an account of a large Lipoma of the Broad Ligament removed by operation, and drew attention to the rarity of the affection and to the cases of solid tumour of the broad ligament which had been placed on record.

Dr HALE and Dr GOODHART communicated a case of Diaphragmatic Hernia in which death was caused by vomiting. A man aged forty nine, after much exposure in India, came home complaining of waterbrash with occasional vomiting. No organic disease could be detected. Pain was present at the ensiform cartilage and there was obstinate constipation. In spite of careful dieting, first with milk and farinaceous food and afterwards with peptonised milk, the vomiting became more frequent and profuse and was highly fetid in character. Death occurred apparently from exhaustion. Washing out the stomach gave only temporary relief. Post mortem all the organs were healthy, but the stomach and part of the colon were found lying in the left side of the thorax, having passed through a smooth edged opening in the diaphragm of the size of a closed fist.—Dr GOODHART added that the presence of a tympanic note at the base of the thorax on the left side suggested for a moment the idea of such a displacement, but it was not seriously entertained, especially as the cases already on record had presented quite the opposite condition of dulness. The heart was raised, but was not displaced laterally.—Dr HALE mentioned a case of the same sort at St. Bartholomew's Hospital, in which a tympanic note over the protruded viscus had led to the performance of thoracentesis as for pneumothorax.

Dr COLCOTT FOX read notes of two cases of Generalised Vaccinia. In both the infant was the only one thus affected out of many vaccinated from the same source. In each case the primary vaccination ran a normal course, and about the ninth day the vaccinated arm became covered with a dense aggregation of supplementary vesicles. These were quickly followed by others disseminated singly or in twos and threes over the unbroken skin of the scalp, face, trunk (front and back) and limbs. Fresh lesions evolved for two or three days and then abortive pustular lesions till the twenty fifth day in the first case and till the eighteenth day in the second case. Hardly any scarring resulted and the mucous membranes were free. Dr FOX then referred to the literature of the subject and discussed the arguments for and against the theories of a spontaneous evolution or auto inoculation. The latter could not probably be absolutely excluded as a possible cause in any case, though there were obvious difficulties to meet in some cases. On the other hand, there was evidence that a spontaneous eruption was not improbable, as in inoculated variola, and cow pox was now and again shown to be probably a modified phase of variola rendered non infectious to man.

Dr AGLAND communicated an account of a case of Generalised Vaccinia which had occurred in a child three months old after vaccination with humanised lymph from a perfectly healthy infant, forty one removes from the calf, though supplementary vesicles had developed in an infant four removes back. Three other children had been vaccinated from the one he was describing without any complication. The arm had appeared normal on the eighth day, but secondary vesicles developed in the course of the next five weeks and pustules on the twenty eighth day, the last appearing on the forty second day. The vesicles closely resembled those of small pox, in some developing into small, shallow ulcers, whilst the original ones coalesced and formed a large ulcer under a continuous scab. There was no infiltration of glands. The child died on the forty ninth day. The mother, who had not been revaccinated, contracted the disease on the nipple. Dr AGLAND said the clinical history was that of generalised vaccinia and drew attention to the lateness and persistence of the eruption. The condition might have been due to swallowing the lymph since the lips had become inoculated, or to absorption from the original vesicles on the arm.

Dr BARLOW thought such cases were very rare, and referred to a case of vaccinia gangrenosa described in the Royal Medical and Chirurgical Society's Transactions. He drew attention also to the papular eruption like the first stage of small pox, which affected the extremities in many cases after inoculation with calf lymph.—Dr CHAPMAN considered the effects of calf lymph were far more severe than those of the humanised variety.—Dr LINGSTAFF thought the severity of the changes were due to the vesicles being too close together, and recommended a single puncture on each arm.—Dr COLCOTT FOX thought such cases might be more common than was generally believed. They were not apparent to most vaccinators because they occurred after the eighth day. He thought patients should be under observation until their sores were healed.

OTHER METROPOLITAN MEDICAL SOCIETIES

HÆMELIAN SOCIETY OF LONDON—An ordinary meeting of this Society was held on Feb. 2nd, Mr Malcolm Morris, President, in the chair. Mr EDMUND OWEN read a paper on Post-nasal Growths in Children and showed two children with widely cleft palates, in whose throats the normal pharyngeal tonsil could be clearly seen. As regards the diagnosis of the affection, he thought that the long and vacant looking face, the open mouth, the thin and compressed nostrils, the inability of the child to breathe through the nose, and the "stuffy" and dead voice were more than enough to establish proof of the disease. By curling the index finger round the soft palate the vegetations could be felt in the naso-pharyngeal cavity were further proof of their presence required. In children, at least posterior rhinoscopy was unnecessary, the mirror could teach the finger nothing. As regarded treatment he urged the prompt removal of the hypertrophied tissue.—Mr BUTLIN had been in the habit of operating under anaesthetics and generally preferred chloroform. At first he had always placed the patient in the supine position but during the last three or four years his patients had been placed on the side during the operation, with the thighs flexed and the head a little forward and on a low pillow. The blood then ran forwards into the cheek and could be constantly removed without interfering with the operation. He had had one fatal case in about 750 operations.—Mr LENOX BROWNE, in answer to the very pertinent question of Mr Edmund Owen "How did children get on before the discovery by Meyer of adenoid vegetation as a cause of deafness?" said that removal of enlarged tonsils alone exerted a certain, and in some cases a remarkable, improvement in the hearing. As in at least 90 per cent of the cases of enlarged tonsils adenoids also exist, he (the speaker) had made it a fixed rule always to search for adenoids and if present to remove them as an essential part of the operation of ordinary tonsillotomy.—Mr T MARK HOVELL, who showed a finger guard, cut from a piece of thick india-rubber tubing, which he used whilst examining patients for adenoid growths, said he found that without an anæsthetic some part of the growth was liable to be left and so to keep up middle-ear catarrh but he now always employed an anæsthetic. He preferred, except in the case of young children, to begin with gas and pass on to ether, and subsequently to use chloroform administered by means of a Junker's inhaler.—Dr SCANES SPICER considered that sufficient attention had not been given to the prevention or arrest of enlargements of the pharyngeal tonsil. These were largely the result of long standing congestion in a tissue specially liable to hyperplasia in early life, and the congestion was the consequence of some obstruction, organic or temporary (catarrhal) in the nasal passages. In an obstructed nose, through which the air could yet pass, each act of inspiration led to diminished intra nasal and naso-pharyngeal pressure posterior to the obstruction.—Dr FELIX SEMON whilst admitting that digital exploration was indispensable for diagnostic purposes in small children, had found that in somewhat older children posterior rhinoscopy often fully replaced the first-named certainly unpleasant investigation. He described the method of operation of which he was in the habit of availing himself (head but slightly hanging over the edge of the table, slight chloroform narcosis usually Gottstein's curette, and only very occasionally forceps) and finished by observing that in his experience in no class of cases was a repetition of the operation more frequently required than in those in which the finger nail had been used.—Dr SILK, speaking as an anæsthetist said he had used nitrous oxide and ether in a large number of cases but had come to the conclusion that this combination distinctly increased the loss of blood especially when the patient was lying down.—Dr WILLIAM HILL considered that a more scientific name for these growths—viz. 'hypertrophy of the pharyngeal tonsil'—should be adopted.—Dr WILLIAM HOLLOWAY spoke in favour of the sitting posture.—Mr OWEN replied.

HUNTERIAN SOCIETY—The annual general meeting of this Society was held at the London Institution on Feb. 8th, when the following officers were elected for the ensuing year.—President Mr Frederick Gordon Brown. Vice-Presidents Mr Thomas E. Bowkett, Sir Andrew Clark, Bart. Dr J. Dundas Grant, Mr John Poland. Treasurer Dr F. Charleswood Turner. Trustees Mr H. Fotherby and Mr F. M. Corner. Librarian

Dr Arthur T. Davies. Orator for 1894 Dr J. Dundas Grant. Secretaries Dr R. Hingston Fox and Mr T. Horrocks. Openshaw. Other Members of Council Dr Alexander Burger, Dr F. J. Smith, Dr E. C. Perry, Dr G. Newton Pitt, Dr Geo. E. Yarrow, and Messrs W. Percy Reynolds, H. W. Denton Cardew, T. Mark Hovell, Henry J. Thorp, Francis R. Humphreys, Alfred H. Tabby and Percy Warner. The Annual Oration was afterwards delivered by J. S. E. Cotman, M.R.C.P. Ed., who had chosen for his subject "Physical Education." Diagrams and apparatus were exhibited in illustration of the theme. The Fellows and friends of the Society dined together at Wood's Hotel on the 10th inst.

WEST LONDON MEDICO CHIRURGICAL SOCIETY—At the meeting on February 3rd, the President, Mr F. SWINFORD EDWARDS showed a specimen of Sarcoma of the Hand, and another of Carcinoma of the Rectum.—Mr R. F. BENHAM exhibited a Growth at the Back of the Orbit following Dislocated Lens.—Dr HENRY SUTHERLAND then demonstrated Various Methods of Artificially Feeding the Insane. The modes of feeding by the mouth which could be practised by the attendants were—(1) by spoon, (2) by two spoons, (3) by feeding cup, (4) by spoon and feeding cup, and (5) by Paley's feeder. The modes of feeding by the nose were (1) by spoon, (2) by feeding cup, and (3) by funnel. The modes which should be employed by a medical man only were by the mouth, stomach tube, and by the nose (nasal tube). The advantages and disadvantages of each were explained and the various methods were shown, a professional "sword swallower" being the subject chosen for operation.—Dr ARCHIBALD GARROD read a paper on Chlorosis. The uniformity of type and almost constant character of the symptoms of chlorosis were noticed, and he then proceeded to discuss the more conspicuous symptoms of the disease as seen amongst hospital outpatients. Several members of the Society joined in the discussion which followed.—Drs BARRY BLACKER and R. H. CLARKE communicated a paper on Light from a Medical Point of View. They referred, firstly to the effects of light upon plants and upon the sickly inhabitants of narrow courts and dark, mountainous valleys and pointed out that in climatic cures sunlight was the one indispensable factor, all other conditions and especially that of temperature, being variable. Pigmentation, the most interesting result of exposure to the sun, was due to the action of light though black pigment was disadvantageous to its possessor as regarded heat. The negro was pigmented in order to resist the excessive stimulus of light. Exposure in bright, cold weather was followed by tanning and irritation of the skin, of the conjunctiva and retina, effects which might be produced by light quite apart from high temperature. The effect of electric light upon the peripheral nerves according to the evidence of Mr J. E. H. Gordon, supported by the experiments of Dr Maklakoff of Moscow was probably that of stimulation. Drs Blacker and Clarke considered that the application of sunlight, and possibly also of electric light, to the whole surface of the body might be employed as a stimulant to the nervous system.

PROVINCIAL MEDICAL SOCIETIES

BRADFORD MEDICO CHIRURGICAL SOCIETY—Dr J. H. Bell presided at the meeting on Feb. 7th, when Dr MOORHEAD showed a boy, aged six, the subject of Disseminated Spinal Sclerosis. At the age of fourteen months the child seemed healthy, there was no injury nor were there fits, but at two and a half he became easily tired, began to drag the toes and had difficulties in speech. Later pain and coldness of the feet were complained of, and spastic gait became marked. Now there is no tremor, vertigo, nystagmus, or amblyopia, the deep reflexes are exaggerated, ankle and rectus clonus being present, and the cutaneous reflexes normal.—Mr FIRTH read notes and showed specimens from two cases in which the spine had been dislocated and fractured between the fifth and sixth and sixth and seventh, cervical vertebrae respectively. In one an attempt was made to reduce dislocation without relief to symptoms.—Mr PETTIT described a case of Tumour of Optic Thalamus and showed preparations from a girl, aged five, who had suffered a slight scarlet fever attack about three months previously followed in ten weeks by dragging of the right leg, feebleness of the right hand and internal nystagmus on the right side. A week later other morbid conditions supervened, and death followed.—Mr HORROCKS reviewed the prescribed teaching in relation to the

Surgical Treatment of Cancer of the Breast and dealt also with the anatomy and relations of the gland. He advocated the old method of wide and extensive removal of the breast. In doubtful cases exploratory incision was required.—Dr RABAGLIATI had followed out cases of his earlier years and found they all succumbed in about three years. He thought he would revert to the old plan of completely altering the constitutional conditions.

GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—On Jan 25th, Dr Pollok, President, in the chair, Dr LINDSAY described three cases of Malformation of the External Genital Organs occurring in one family, and showed one of the children. He was of the opinion that all were hypospadiac males, although two of them had been brought up as girls. The parents and six other children of the marriage were naturally formed.—The PRESIDENT then read a paper on the Prophylaxis and Treatment of Abortion. He said that there was a popular belief that very early abortions required neither care nor attention, but he was inclined to emphasise the very opposite—viz., the earlier the abortion the longer rest and the more care needed. He classified the causes under five headings—traumatic, mechanical, neurotic, toxicæmic, and inflammatory. In discussing the treatment he dwelt upon the necessity of thoroughly emptying the uterus. He had always found it very difficult to do this with the finger, and he had found ovum forceps a failure. If rest and sedatives failed to prevent abortion, he plugged, and after from twelve to twenty fours usually found the complete ovum come away on removing the plug. When there was retention of a portion he dilated with Smith's metallic bougies and employed the curette. After douching he mopped out the cavity with perchloride of iron to arrest hæmorrhage and inserted a strip of iodoform gauze in such a way as to plug the vagina. This was removed in twenty four hours and an antiseptic douche used night and morning.

MANCHESTER MEDICAL SOCIETY.—On Wednesday, Feb 1st, the President-elect, Dr GLASCOCK, at the request of the committee, delivered an inaugural address on "Brief Notes on the Materia Medica of the Ancient Egyptians with reference to Eye Diseases." The address was well received, and after its delivery Dr S. HOLGATE OWEN mentioned two cases of the milder form of Raynaud's disease. In each the disease manifested itself by the "dead fingers" and by symmetrical patches of "local asphyxia" on the front of the legs. Purpuric spots also occurred on the thighs. Both cases were in women, and in one the symptoms were preceded by an attack of hysterical paralysis. Dr Owen drew attention to certain points of similarity between this disease and tetany, both as regards etiology and symptoms.

NOTTINGHAM MEDICO CHIRURGICAL SOCIETY.—This Society met on Feb 1st, Mr R. C. CHICKEN, F.R.C.S., President, in the chair.—Dr KINGDON showed a case of Congenital Fibroma involving the right eyelid and zygomatic region.—Dr HANDFORD brought forward a woman aged twenty nine with Lupus Erythematosus of the dorsal surfaces of the fingers of both hands.—Mr ANDERSON showed a case of Epithelioma.—Dr CATTLE read for Dr STAFFORD notes of a case of Pulmonary Embolism. A woman aged thirty six was seized during the eighth month of pregnancy with intense dyspnoea, signs of cardiac failure and rusty expectoration. Labour occurred at the normal term and the patient completely recovered. He also read for Dr STAFFORD notes of a case of Chylous Ascites in a man aged sixty five, who suffered for ten years from temporary glycosuria, gastric and hepatic symptoms, hæmatemesis and melæna.—Dr THRESDER read a paper on suggestions bearing on Preventive Medicine applied to dwelling houses. He also read notes of three cases of Friedreich's Disease occurring in members of the same family. The disease commenced about puberty. In all three there was marked ataxia, absence of lightning pains and slow speech. Knee jerks were present in two cases, and in two others there was a slow form of nystagmus.—Mr PAUL showed for Mr HATIERLY the Uterus removed by Porro's operation from a dwarf three feet eight inches in height and aged twenty three. The patient was much deformed by rickets, the conjugate of the pelvis measuring an inch and a half. The patient recovered without a bad symptom. The child was alive.—Dr HEELIS showed a Piece of Metal which had been embedded for some time in the scalp of a young woman and had caused obscure symptoms.

SHEFFIELD MEDICO CHIRURGICAL SOCIETY.—At the meeting on Jan 25th, the President, Mr Simeon Snell, in the chair, Mr ARTHUR JACKSON read the notes of a case

of Cancer of the Breast in a man.—Dr SINCLAIR WHITE showed a youth, aged eighteen, with Congenital Hydrocele.—Dr HUNT showed two Dermoid Cysts which had been removed by Mr Arthur Jackson from a woman twenty nine years of age. The patient made a good recovery.—Dr HAMIL read notes of a case of Ruptured Kidney in a woman aged twenty two, who had suffered from lead poisoning. She was found alone and unconscious, and it was supposed that she had been the victim of an assault. At the post-mortem examination all the organs were found to be healthy with the exception of the left kidney in the middle third of the posterior surface, of which there was a laceration nearly an inch in length.—Dr GWYNNE read a paper on Diarrhoea in Children. He deprecated a minute classification of diarrhoea as anatomically unsound and clinically valueless. In the treatment of epidemic autumnal diarrhoea delay was dangerous in very young children. In such cases he would at once stop the milk supply. He was sure of the good effects of calomel or mercury with chalk, with small doses of Dover's powder, and irrigation of the bowels with warm water containing tannic acid or acetate of lead. Erosions of the mucous membrane and innumerable small ulcers were well marked over most of the large intestine.—The President, Dr Sinclair White, Dr Samson Mathews, Dr Arthur Hall, Mr Wightman, Dr Martin and Mr Dale James joined in the discussion which followed.

WEST KENT MEDICO CHIRURGICAL SOCIETY.—The meeting on Friday, Feb 3rd was devoted to the exhibition of clinical cases, Dr Pitt, President, being in the chair.—Dr GARTH showed for Mr Poland a man who had made a good recovery after operation for Strangulated Congenital Hernia, with removal of sac. He also showed a woman, aged seventy with Epithelioma of the Upper Lip.—Dr PITT exhibited a pathological specimen of Arterio venous Aneurysm formed by the left iliac vein and aorta at its bifurcation. He also showed Spinal Cord Sections from (1) Ataxic Paraplegia, (2) Charcot's Disease of Knee, (3) Infantile Paralysis, (4) Syringomyelia, with Glioma of Cord.—Dr ERNEST CLARKE showed a piece of steel 2 mm square and 0.5 mm thick, which he had removed from beneath the conjunctiva on the under surface of the left upper lid of a man, where it had remained for twenty two years.

Reviews and Notices of Books.

Médecine et Mœurs de l'Innocence Rome d'après les Portes Latins. Par le Dr EDMOND DUPUY. Deuxième Édition, Revue et Corrigée. Paris. Baillière et Fils. 1892.

Syphilis in Ancient and Prehistoric Times. By Dr F. BURET. Translated from the French, with Notes, by Dr A. H. OHMANN DUMESNIL M.D., Professor of Dermatology and Syphilology in the St. Louis College of Physicians and Surgeons. Vol. I. Philadelphia and London. T. A. Davis. 1891.

WE have bracketed these two publications together as dealing, on the whole, with the same subject, though, as will be seen from their respective titles, Dr E. Dupuy confines his strictures to Ancient Rome, whilst Dr Buret extends his observations to the whole world of antiquity. Neither is addressed "virginibus puerisque," but rather to those of the profession who interest themselves in the pathological sequelæ of vices common to every period of the world's history.

Dr Dupuy calls his book a "second edition," but, except for the omission of some very inaccurate engravings representing the "baths of antiquity" we see little difference between it and the first, published in 1885 and already noticed in THE LANCET. There are the same number of pages and nearly the same misprints in each. At p. 12, for example the "tumentibus" of the first edition has not been corrected into "tumentibus" in the second, at p. 13 "anellitus" and "venis" still do duty for "anbellitus" and "ventis", and at p. 16 "pantherum" and at p. 18 "ern" continue to violate sense and quantity alike. Even in the first paragraph of the preface an astounding historical blunder is allowed to remain—"Antonius Musa, Plinio l'Ancien, Artète et Cælius Aurélianus apparnissent presque en même

temps que l'Hippocrate latin." By the "Latin Hippocrates" the author means Celsus, and he asks us to believe that that writer, whose date is that of the Emperor Tiberius (A.D. 14-37), was nearly contemporary with Aretæus, whose "floruit"—according to the best authority—is at least a hundred years later and with Cælius Aurelianus, who lived at the end of the fourth, or more probably in the first half of the fifth, century A.D. After this stumble on the threshold it is hardly likely that the author's subsequent progress can be very satisfactory. Under Martial, for example, we find him ignorant of the changes wrought in the criticism of that author by Friedländer's monumental edition (1885), whilst the badly accented Greek and the false quantities that disfigure the extracts in the first issue of his treatise are still maintained in the second. For those who can tolerate such *maculae* the book is not without interest, gathering together as it does and conveying in a clear even viraciously style a great mass of detail on the immoral life of antiquity and on the pathological and therapeutic doctrine for which that life supplied the material. But to earn the favour of more exacting and scientific readers it must be thoroughly revised by the light of better texts and more recent commentaries than the author seems to have consulted.

The second publication is much more elaborate, though it cannot, any more than the first, be considered to reflect the latest and best scholarship. On the origin of the word "syphilis" Dr Buret has no light to shed. Instead of following the sound lead of the great philologist and physician Littré, according to whom "on ne connaît pas l'étymologie de ce mot," he falls back on the exploded etymology from *σφ*, with, and *φύλα* love. He then seeks to trace the disease back to ancient times when again his authoritative compatriot could have told him, "on ne rencontre aucune indication précise de la syphilis proprement dite dans les médecins de la Grèce et de Rome et cela jette le doute sur ce point d'histoire médicale." Unadmonished by this dictum he goes back even to prehistoric epochs, and by a catena of extracts from previous writers, the majority of whom carry no special weight he finds syphilis amongst the Chinese "five thousand years ago amongst the Japanese the Egyptians, the Assyrians and Babylonians, the Hebrews and, *a fortiori* amongst the Greeks and the Romans. It awakens more than suspicion as to his inductions when we find that none of the really great historians of medicine—Häser for example, or Puschmann—venture to extract from his citations the precise references to syphilis he himself does, and our suspicions are confirmed when we find him quoting as a decisive authority that translation of the Ayurveda by Hessler which Häser expressly cautions his readers against as 'sehr mangelhaft' (very defective). When we come to classical antiquity we find his special pleading and his love of "broad translation" as he calls it, still more marked, no doubt because he is treading ground already carefully traversed by scholars who have failed to 'read into' his authorities the meanings he discovers in them. Take, for instance his interpretation of the well known passage in Thucydides (II. 49) describing a symptom of the plague at Athens. One of the last stages of that disease, says the historian, was its attack on the extremities, including the pudenda, and this latter circumstance is actually pressed by Dr Buret into the service of his argument that syphilis must have been a factor in the plague! Not more fortunate is he in his Roman chapter, where he makes Horace (Odes I., 37) contribute to the thesis that syphilis must have been common in his times. The lines are familiar to all, but we venture to say that no editor of authority has interpreted them in Dr Buret's sense. The reader has but to refer to Hirschfelder's revision of Orelli's Commentary (Berlin, 1886) to bear out our criticism. Nor is he any more fortunate in his appeals to Martial, of whose one

good editor (Friedländer) he seems to be ignorant. Many passages he no doubt adduces from that exceedingly plain-spoken satirist of the Rome of Domitian, but he cannot lay his finger on one which can be accepted as sustaining his thesis. At the same time the book is not without value for the fidelity with which it depicts the immoral side of antiquity, and to all who are not nauseated by such details it has a certain interest of its own.

The Year book of Treatment for 1893 A Critical Review for Practitioners of Medicine and Surgery London Cassell and Company

WHEN a book such as this has reached the ninth year of its existence the work of criticism becomes an easy task. Changes of contributors and of arrangement have to be noted, and the method of each contributor has to be considered with reference to past work. The changes are few. Death has removed Dr James Ross of Manchester from association with Dr E. S. Reynolds in the preparation of the section dealing with diseases of the nervous system, including insanity. Two new contributors have been added—Dr Dudley Buxton who has charge of an article on Anæsthetics, and Professor W. H. Corfield, who writes a separate article on Public Health and Hygiene. Space has been found for these two new articles, partly by condensation (which affects mainly the articles upon Diseases of the Heart and Circulation and upon Diseases of the Lungs and Organs of Respiration) and partly by a new arrangement of the selected list of new books, new editions and translations, by which some ten pages have been saved. On the other hand the articles upon Infectious Fevers and Diseases of the Skin have notably increased in length, so that the absolute bulk of the "Year-book" is increased by some ten pages—a small matter when the importance of the new articles is considered.

In dealing with Diseases of the Heart and Circulation Dr Mitchell Bruce follows a new "natural order" of arrangement which is fully adequate to the materials he has to work upon. The chief interest centres round the use of digitalis, its active principles and its succedanea. Dr Markham Skerritt writes of the Diseases of the Lungs and Organs of Respiration, the treatment of pneumonia with oxygen gas and the hygienic and constitutional treatment of pulmonary tuberculosis being the main topics of discussion. The article upon diseases of the nervous system, including insanity, is now in the sole charge of Dr E. S. Reynolds of Manchester, who finds abundant material in the various remedies suggested for the treatment of insomnia and for the relief of pain. Dr R. Maguire writes the article upon Diseases of the Stomach, Intestines and Liver, while the article upon Diseases of the Kidneys, Diabetes &c. comes from the pen of Dr C. H. Ralfe, who devotes most attention to diabetes though he mentions at length the Croonian lectures of Sir William Roberts, reference to the same lectures recurs in the article upon Gout and Rheumatism, by Dr A. E. Garrod. Dr Sidney Phillips deals with Infectious Fevers. The short article upon Anæsthetics, by Dr Dudley Buxton, introduces some useful novelties. Mr Stanley Boyd's contribution on General Surgery is long, but the subject is treated with lucidity. Mr W. J. Walsbam writes the article on Orthopædic Surgery and regrets the paucity of material in this department. The article on Surgical Diseases of Children, by Mr Edmund Owen, displays many characteristic indications of his keen criticism. Mr Reginald Harrison, Mr Alfred Cooper and Mr Ernest Lane respectively write efficient articles upon Diseases of the Genito Urinary System, Diseases of the Rectum and Anus, and Venereal Diseases. The work of Dr G. Ernest Herman, Dr M. Handfield Jones, Mr Malcolm Morris, Mr Henry Power, Mr G. T. Field and Mr Barclay J. Baron is also highly commendable. The Summary of the Therapeutics

of the Year, by Dr W G Smith, contains a curious misprint (many times repeated) which appears to cast doubts upon the alkaloidal nature of cocaine. Professor Corfield's article on Public Health and Hygiene is admirable as a summary of the hygienic work of the year, but it does not give many references to the sources of information. Viewed as a whole, the

Year book of 1893" is a satisfactory production fully equal to previous editions, and the numerous writers engaged on the compilation are to be congratulated upon having completed a work of such general utility.

LIBRARY TABLE

The Journal of Physiology Edited by MICHAEL FOSTER and Others. Vol XIII. Supplementary Number. Cambridge Engraving Company, Cambridge. December, 1892.—In a slip issued with this number of "The Journal of Physiology" it is stated that the increasing supply of material accepted as suitable has led the editors to issue a volume no longer, as heretofore, annually, but as soon as about 500 pages have been completed. This augurs well for the progress of physiology in Great Britain, and if the quality of the memoirs and articles published be maintained at the present high standard the journal may continue to rank with the best foreign periodicals devoted to the same subject. The present part contains the following papers: (1) On the Relation of the Posterior Root to the Posterior Horn in the Medulla and Cord, by H. Tooth, (2) On the Larger Medullated Fibres of the Sympathetic System, by J. N. Langley, (3) A Method of obtaining the Specific Heat of certain Living Warm blooded Animals, by W. Hale White, (4) On Lacto globulin, by R. T. Hewlett, (5) Does Bone contain Mucin? by R. A. Young, (6) The Proteids of Liver and Kidney Cells, by W. D. Halliburton, (7) The Influence of Light on the Gas Exchange in Animal Tissues, by C. A. Ewald, (8) Graphic Records of the Action of Chloroform and Ether on the Vascular System, with a plate, by J. A. MacWilliam, and, lastly, the Effects of Drugs and other Agents upon the Respiratory Movements, by H. O. Wood and D. Cerna.

The Practical Guide to Algiers By GEORGE W. HARRIS, Third Edition, thoroughly revised up to date and enlarged. London: George Philip and Son. 1893.—The rapid sale of two considerable editions of this compact little book attests the favour with which it has been received by the travelling public. The demand for it also shows the increasing attraction Algeria possesses as a winter resort. Algiers itself is gradually receding into the background in this respect, and now that the railway is extending southward it is to Biskra, "the Queen of the Desert," that "seekers for sun" are drawn in ever greater numbers. Mr Harris rightly claims for Biskra a "climate without parallel." When London is wrapped

in fog and Paris mantled with snow, when both Rivières—the Rhodane and the Riviera Levante—are swept with snow, and the Alps or Apennines, Biskra remains a warm land with a temperature between 70 and 80 F° overhead and a glorious land for the visitor to the green oasis and the like, to portion time, the attractions were not

STONHAM, F.R.C.S. 1892.—This descriptive catalogue has been compiled by Mr Charles Stonham, assistant surgeon to the hospital. Seldom, if ever, have we met with a museum catalogue so excellently prepared in every way. By means of a full index at the commencement of the volume we are able to turn at once to any class of specimens we wish to refer to, and in finding it obtain full information. Mr Stonham modestly states in his preface that he has "endeavoured to explain by short headings the chief morbid lesions to be met with in the various pathological processes which the specimens illustrate, believing that by this means the student of morbid anatomy will more readily obtain a fair grasp of the subject of fundamental importance in the rational study of disease." In attempting this Mr Stonham has made the "catalogue" a most valuable work of reference, and all future students will have to thank him for making their studies in this direction easy and profitable. We congratulate him on the success of his labours, and trust that the compilers of similar catalogues at other hospitals will adopt his excellent suggestions.

Cottage Sanitation By HECTOR McLEAN WILSON, M.B., B.Sc. With Preface by T. PRIDGIN TEALE, F.R.S. Published by the Royal Agricultural Society of England, 12, Hanover square, London, W. 1893.—This excellent little pamphlet is the outcome of a meeting of several experienced medical officers of health. It is drawn up by Dr H. McLean Wilson, under the supervision of Dr Cameron and Mr T. Pridgin Teale, from notes taken at the meeting. The paper contains fourteen illustrations, which very clearly illustrate the text. The aim of "Cottage Sanitation," as described in the preface, is to make suggestions of as simple a kind as will meet the necessity of each case, and to set forth a minimum of sanitary requirement such as may reasonably be attained in every country village. The pamphlet is a cheap reprint, for distribution in rural districts by sanitary and parochial committees. It is 3d per copy or 2s per dozen, and is well adapted to serve the purpose which its publication is designed to fulfil.

The Veterinary Journal. London: Baillière Tindall & Cox.—The number for January well maintains the reputation of this useful journal, by the value and interest of the articles it contains. Amongst the original communications is one on the Koch test for tuberculosis in cattle, which affords strong evidence in favour of tuberculin as an aid to the diagnosis of that very serious disease in bovines. The paper is by Professor Armsby of the Pennsylvania State College. There is another on opacity of the hyaloid membrane of the vitreous humour in a horse's eye, and there are several very interesting papers on other matters connected with animal medicine and surgery, home and foreign.

Dod's Peerage, Baronetage and Knightage of Great Britain and Ireland for 1893. London: Whittaker and Co. and George Bell and Sons.—We have received a copy of this useful index to the titled classes of the United Kingdom and to the colonial, diplomatic, military, naval and civil service officers of the State. The work—which is too well known to need any description from us—has now attained its fifty-third year of publication and has been brought up to date, the appointment of Sir J. P. Caron, K.C.M.G., to the Postmaster Generalship of the new Canadian Ministry being the last entry. An obvious printer's error occurs on the contents page at the fourth line from the bottom, where "Colonial Precedence" should evidently be "Clerical Precedence."

Kelly's London Medical Directory for 1893. London.—It may be supposed, the fifth year's issue of this work, which has just come to hand, varies but little from the preceding volume save in the necessary addition of fresh names. The enumeration to a larger extent of the works added by the respective authors will no doubt be useful.

Analytical Records

FROM

THE LANCET LABORATORY

DIURNULES

(PARKE, DAVIS AND CO, NEW YORK.)

RECOGNISING the inconvenience which the physician often meets with when he wishes to prescribe ordinary minimum or maximum doses of such bodies as the alkaloids, glucosides and similar principles the above firm of manufacturing chemists subdivide the maximum full daily dose of the substance into twelve small equal doses. In the shape of granules the medicaments thus subdivided are designated, not inaptly, "diurnules," which are distinguished from parvules, pink granules and regular white granules by a yellow coloured coating. The prescriber has therefore but to remember that twelve diurnules represent the full daily adult dose of the different medicaments as exhibited in that shape. The condition of the patient, of course will lead him to vary the dose from one diurnule every two hours to one every three, four or six hours, in accordance with the requirements. We have recently received for inspection and examination a pocket case, elegantly finished in morocco containing in the form of diurnules twelve typical substances. Notwithstanding the minute quantity of medicament which is contained in many of the diurnules, we have not failed to isolate and recognise the principle in any single example, although one diurnule only was operated upon for this purpose. This bears testimony both to the reliability of the preparations and to the delicacy of chemical tests. In the case of the atropine sulphate diurnule, for instance, twelve of which contain $\frac{1}{10}$ gr of the sulphate—one diurnule ($=\frac{1}{120}$ gr) responded distinctly on proper treatment to the test known as Vidali's, which depends upon the production of a violet colour when the extracted alkaloid is evaporated with nitric acid and afterwards moistened with alcoholic potash. A single diurnule of arsenious acid, again, containing only $\frac{1}{10}$ gr, yielded all the characteristic reactions of arsenic. The aconitine diurnule, containing only $\frac{1}{10}$ gr of the alkaloid base, gave a residue when suitably treated which produced the peculiar numbing sensation upon the tongue. Similarly, sufficient alkaloid (quantities varying from $\frac{1}{10}$ gr to $\frac{1}{120}$ gr) was contained in the diurnules of morphine, gelsemine, strychnine, physostigmine and other bodies to admit of their recognition by chemical means. Diurnules are obviously models of pharmaceutical elegance and efficiency and they serve admirably to illustrate the assistance which pharmaceutical skill affords the physician in attaining accuracy of dosage and ease of administration.

LENTILINE BISCUITS.

(E. MARRIOTT AND CO HATFIELD ROAD HASTINGS.)

Chemical analysis assigns to lentils an extraordinary nutritive value, inasmuch as they contain twice the amount of proteids contained in wheat flour, the same amount of fat, 12 per cent. less starch, and 1 per cent. more mineral matter, in which iron and phosphates abound. The composition, texture and flavour of the above biscuits are alike excellent, the peculiar taste of the lentil blending remarkably well with that of the entire wheat meal. Both cereals were readily recognised under the microscope. The biscuits afford a portable and palatable form of one of the most nutritious pulse foods.

MALTO PEPSIN

(HAZEN MORSE, TORONTO CANADA, AND MESSRS BURGOTTE, BURRIDGES & CO, 16, COLEMAN STREET E.C.)

In this preparation are skilfully combined the digestive agents pepsin, pancreatin and diastase (exsiccated extract of malt) with the acid lactophosphate of lime. The presence of

lactophosphate of lime was confirmed on analysis, whilst about the activity of the digestive principles referred to there can be no doubt. Thus, white of egg was rapidly converted into peptone, and starch into dextrine and sugar. Apart from its trustworthy nature as an efficient aid to digestion, malto pepsin may also be regarded as possessing properties which make it of tonic value. The formula is an excellent one.

CAFFEIN S LIQUOR CARNIS

(THE LIQUOR CARNIS COMPANY 50, HOLBORN VIADUCT E.C.)

This valuable food has on a previous occasion found a place in our records of analytical work. It has since been considerably improved in many essential respects, not the least of which are flavour, keeping properties on exposure to air, and mode of manufacture, in which, it should be added, provision is made to secure the product against all risk of infection. With regard to analytical results they are as satisfactory as before. The moisture amounted to 55.40 per cent., the meat extractives and carbohydrate menstium to 42.07 per cent. (containing 4 per cent of nitrogen) and the mineral matter to 2.20 per cent., consisting chiefly of valuable phosphates with a minimum of common salt. The excellent state of preservation of the vital principles of beef is apparent from both chemical and spectroscopic examination. The albuminoids of the meat for example, are present in an unaltered state, as is evidenced by the preparation becoming solid on heating, and a diluted solution exhibits the characteristic absorption spectrum of fresh hemoglobin, the two lines disappearing from the solution on boiling. Liquor carnis is free from objectionable preservatives and, having regard to its high nutritive value, is really a powerful as well as an economical food and restorative.

GRANULATED OATMEAL.

(SMITH AND SONS MID CALDER, MIDLOTHIAN.)

We must express approval of the process by which this excellent meal is produced. It is a granular preparation and the grains are of equal size, so that it may justly be claimed that the operation of cooking would be more uniform and complete—a matter of some importance especially where enfeebled digestions are concerned. Furthermore, the meal is entirely free from husk and possesses an excellent oatmeal flavour. It is evidently the refined product of a valuable food.

BLAUD'S PILLS

(SOUTHALL BROTHERS AND BARCLAY BIRMINGHAM.)

The real value of a Bland's pill depends of course upon the amount of ferrous carbonate it yields on double decomposition. In this respect we find the pills of the above firm satisfactory both the amounts of iron and alkaline carbonate in which were determined by analysis. The iron is almost entirely present in the ferrous condition, whilst the alkaline carbonate was slightly under the amount necessary to completely decompose the ferrous salt. The pills keep perfectly but the coating is, we find, a somewhat hard substance and liable to crack.

DIABETIC FOODS

(ROBERT MCVITTIE, 23-25 QUEEN'S-FERRY STREET EDINBURGH.)

From each and all of these preparations it is claimed that starch has been carefully excluded. They comprise gluten rolls, gluten bran rolls, gluten and almond bread, almond biscuits and imitation oatcake. In the first three mere traces of starch were found, but in the almond biscuit and the imitation oatcake results of an absolutely negative kind were obtained on testing. With regard to palatability the oatcake is especially to be commended, the bran rolls and the almond biscuits coming next in this respect. It is very satisfactory to observe the attention which manufacturers are now directing towards the improvement of the flavour and character of the food intended for the use of patients suffering from diabetes. The above-named preparations afford evidence of this.

THE LANCET.

LONDON SATURDAY, FEBRUARY 18, 1893

THE lecture on Antiseptics given by Sir JOSEPH LISTER in the London Post graduate Course was a demonstration not merely of the system with which that surgeon's name has been associated, but of the enormous advances that have been made in surgery during the last couple of decades, and finally of the scientific accuracy of almost every observation and prediction made by him as the initiator of the system. Anyone who has followed the development of antiseptic surgery must be struck by the almost marvellous continuity of the original idea throughout every step. The end to be attained was at the very outset stated to be the same as is now known to be necessary, the only real progress that has been made being in the direction of eliminating unnecessary complications and of using materials which will give the desired result whilst exerting the least possible deleterious influence on the skin and exposed tissues, and it must be confessed by the veriest sceptic that, on careful analysis of the methods described in his recent lecture, Sir JOSEPH LISTER may congratulate himself that, although he has since simplified and improved his method and has been able to do away with small increases of tension and minor irritations which were sometimes mentioned in earlier records, he from the very outset protected the patients from whom these records were taken against septic mischief, and obtained results which up to that time had never been effected in hospitals with similar classes of patients—results as good, indeed, as those now obtained in the best appointed hospitals in which the antiseptic system is in use. Most of those who have placed themselves in a position of antagonism to the antiseptic system have directed their attacks against the details of the method rather than against the principle on which it is founded. First the spray was denounced, and undoubtedly its use was attended with many serious disadvantages, not the least important of which was that it deluged the tissues laid bare by the surgeon's knife with a powerful irritant which necessarily devitalised the cells of which this tissue was composed, but in the earlier days of antiseptic surgery, when pyæmia and septicæmia, not to speak of hospital gangrene, had made their home in many of our hospital wards, Sir JOSEPH LISTER and those who were working under his guidance, believing as they did that these conditions were the result of germs which in some way or other were localised in the hospital, felt it to be a duty to guard every avenue by which such germs might make their way to either surgical or accidental wounds. Exception may be taken by some critics to minor changes of methods, but the possibility of making such changes could only be demonstrated after a more thorough knowledge of the mode of propagation of bacteria, of their life-history and ways of transmission from point to point, had been obtained. Knowing as we do now that septic material is far more frequently introduced by the finger, uncleanness, dirty instruments, or foul dressings, we must attribute ourselves that

the germs may be attacked with the least possible trouble and without the use of superfluous chemical antiseptics or too elaborate precautions, but the fact remains that we still adhere in the strictest fashion possible to the principles Sir JOSEPH LISTER enunciated even when he was carrying out his earliest experiments.

The return to the use of carbolic acid, or rather the increased use of this substance and a more perfect reliance upon its virtues as the best available antiseptic at our disposal, give remarkable evidence of Sir JOSEPH LISTER's scientific instinct (if such a term may be used), and it is now noticeable that not only in the operation theatre and in the wards have surgeons come to look upon this substance as the most convenient and reliable antiseptic for their purposes, but the most convincing corroborative evidence as to the germicidal properties of this substance has been obtained in the course of experimental investigations carried out in various laboratories, both at home and abroad.

It is scarcely necessary to point out that all the resources of antiseptic surgery have been devoted to the keeping out of micro organisms from wounds, and for this reason antiseptics whose special virtue lies in the fact that they act as such only when brought in contact with the tissues themselves or with the fluids that come from a wound are regarded with some distrust. Substances belonging to this group—iodoform, for example—may undoubtedly be of very great service where a special end is to be obtained, and it can be well understood that, where tuberculous tissue has been removed, or where old sinuses have been scraped, the actual introduction of iodoform into the wound during the earlier stages of treatment may prove of very great value, but it can scarcely be maintained that this treatment of fresh wounds by plugging with iodoform can have any advantage over the ordinary method of treatment. In fact, most people would argue that the mechanical interposition of a powder between the raw surfaces would interfere in some degree, at any rate, with the rapidity of healing, so that where the presence of micro organisms is not already suspected iodoform should not be too frequently employed.

As regards the cleansing of the skin before operations, there can be little doubt that the results obtained by those who have used carbolic acid are very different from those obtained by the German school, who rely so largely on corrosive sublimate. This latter substance, as originally pointed out by Professor KOCH himself, combines very rapidly with albuminoid material of all kinds, and in this combination becomes fixed and almost inert. Its action upon the organism depends upon its power of combining with the protoplasm of that organism, and if its "affinities," as the chemists say, in that direction are satisfied it does not go out of its way to attack any other protoplasm, so that as soon as it comes in contact with the superficial layers of the skin it unites with the protoplasm of the cell and does not make any attempt to reach the micro-organisms, which, as Sir JOSEPH LISTER points out, are so numerous in the sebaceous and other ducts. Carbolic acid is less open to objection on this score for although it does undoubtedly combine with the protoplasm it has greater penetrating power, especially as regards the fatty or sebaceous matter. It may be termed a much more searching antiseptic than bichloride of mercury and so far therefore is more trustworthy as a preparatory cleanser of the skin. This

perhaps is due in part to its extreme volatility, which property, however, is one of its chief disadvantages, a disadvantage that Sir JOSEPH LISTER has overcome by using with it his double cyanide of mercury and zinc. The double cyanide, an exceedingly insoluble substance, appears to exert a most powerful inhibitory action on the growth of micro organisms and at first sight it would appear that it might be used instead of the carbolic acid, had it not been found that, powerful as its inhibitory action is, its actual germicidal power is comparatively slight. With these two substances at command, however, all the essential properties of a good dressing are secured the carbolic acid is used to kill the germs which under various conditions might surround or come in contact with the lips of the wound, the double cyanide, in the form of a slightly soluble powder, remaining on its part to inhibit the growth of germs which might infect the saturated dressing, a function that the volatile and soluble carbolic acid cannot perform, as on account of these properties it is soon removed from the dressing.

It is curious to note that Sir JOSEPH LISTER uses the peptomising power of certain micro organisms to free his sponges from the fibrin that is deposited in their meshes, and it might be objected that those who have not Sir JOSEPH LISTER'S exact knowledge of the antiseptic properties of the various substances used, and who cannot distinguish sufficiently clearly between the mode of action of different antiseptics, can scarcely realise the importance of destroying any putrefactive micro-organisms that might remain in the sponge. If Sir JOSEPH LISTER'S methods are adhered to in their entirety, and if his principles are thoroughly mastered, there is no danger to be apprehended from the use of sponges so prepared.

From the whole of the demonstration, however, there is much comfort to be derived, for we are assured that all nature's forces are working in favour of the surgeon and his patient, the blood serum is making an effort to destroy any micro-organisms which may make their way into the wound whilst phagocytosis, as demonstrated by METCHNIKOFF, also contributes its share to the process, so that when the antiseptic precautions which should be taken by every surgeon to prevent gross septic material from making its way into the wound, or from obtaining any footing there, are taken in the case of any patient enjoying moderately good health to begin with, there should be a fair prospect of healing without the intervention of suppuration of any kind. Sir JOSEPH LISTER'S exposition of his subject is so clear, and his experiments are so definite and well thought out, as to make his position almost unassailable.

THE controversy which has recently been going on between Professor MAHAFFY of Trinity College, Dublin, and Lord Justice BOWEN on the advantages and disadvantages attending the great extension of popular education now in progress in this and other countries raises not only many incidental questions of great interest, but one fundamental problem of the highest importance—viz., how far the popularisation of education loses in depth what it gains in diffusion, how far, in other words, it sacrifices thoroughness to superficial dissemination. Must the race of scholars decay in an age when everyone is acquiring a smattering

of education? When everyone reads somehow and some thing, are none to read wisely and exhaustively? Is there any fair prospect that the universal spread of education—if that be possible—will banish poverty and reduce crime to a minimum? Is knowledge the talisman to cure the ills of society and transform human life?

These are large problems, not to be lightly dogmatised upon, and we shall confine ourselves to one phase of the controversy—viz., whether there is any incompatibility between the spread of education to all classes and the maintenance of the standards of education. Few questions are more important and no one will deny the opportuneness of the subject at the present time. We are in the full tide of an immense diffusion of popular education, be the results what they may. The operation of the English Education Act of 1871, the foundation of the Royal University and of the Intermediate System in Ireland, the vast growth of newspapers and periodical literature, the notable cheapening of books—all these and other causes have contributed to this result. It has been usual to congratulate ourselves upon this state of things as if it were pure gain, so that the somewhat Cassandra-like monitions of so experienced an authority as Professor MAHAFFY will be startling to many. His testimony is that in the area of his observation the diffusion and popularisation of education have gone hand in hand with a palpable lowering of its standards. "As regards the pupils of the higher schools in Ireland" he writes in the *Nineteenth Century*, 'it is not only my conviction, but that of many of my colleagues, that their average scholarship was higher twenty years ago than it is now. As regards classics, we are agreed that not only is the writing of verses—an excellent test of elegance—becoming almost extinct, but that prose writing is far more slovenly and inaccurate. In mathematics our new difficulty is to keep alive even an interest in its higher branches in this our famous mathematical university.' In reply to the objection that classics and mathematics are now less exhaustively studied than in a former generation because so much time is consumed on what are virtually new subjects such as French, German and Music, Professor MAHAFFY thinks the new knowledge so superficial as to invalidate the apology. Of schoolboys examined by him he says that the vast majority "had learned to translate a text-book which they could not read and to repeat grammatical rules which they could not apply. In music they had learned barren theory without any reference to practice."

We do not dispute Professor MAHAFFY'S facts, but we do demur to the interpretation put upon them. We believe that the spread of education has been on the whole a great gain, but that the gain has not been unmixed. We think that if a sufficiently wide view of the subject be taken, it will become apparent that education is undergoing a radical alteration in its purpose methods and results, and that we are at present suffering from some of the inevitable inconveniences of a transition period. Until recently education in any comprehensive sense of the term, was the privilege of the few. It was practically confined to those who had either wealth and leisure or who were prepared to face a prolonged struggle with poverty and obscurity. It had its favourite seats in secluded university towns and it shunned, rather than courted contact with the streams of commerce and industry. It became the badge of a small and exclusive caste. The

great mass of the people were either practically outside the range of its benefits, or at best received these only at second hand. All this is now being steadily altered. Universal compulsory education has widened and broadened the intellectual horizon of all classes, it has created new tastes and ambitions; it has fostered talents hitherto undeveloped. The cost of university life has been reduced, universities are more and more springing up in the large centres of industry, examination boards have been established to test the progress made by those whom the *res angusta domi* compels to study in private, university extension lectures aim at diffusing some smattering at least of university training amongst large areas of the community—in a word, education is being popularised. Pessimists sum up for us rather dolefully the result of all these efforts. They tell us that the net result has been that everybody, from the servant girl and the shop assistant to the peeress and the prince, now reads newspapers and light fiction, and that profound and accurate scholarship is disappearing from our midst. We decline to believe it. It is no doubt disappointing to find that at most of our public libraries the proportion of novels read to other books is as high as 80 and 90 per cent, but there is nothing surprising in the fact that in an age when everybody reads the general rush should be at first towards the lightest and least fatiguing form of literature. A large proportion of the readers exhaust all their available energy in their other pursuits and turn to books and periodicals simply for distraction and amusement. This is to a certain extent inevitable, still we may fairly hope that a more matured taste will tend to grow up, and that this growth will be materially helped by any measures to enlarge the—at present—very scanty leisure of the artisan classes. But if, admittedly, the great majority of readers nowadays confine themselves to the lightest forms of literature we are not prepared to grant, without further evidence, that the number of real scholars is declining. They never were, perhaps never will be, a numerous class, but if we take one test—and that perhaps the best—viz., the output of scholarly books, we think there is no reason for a despairing view of the prospects of education. Learning is no longer sunk in a well here and there. It is being universally diffused, in a perhaps shallow, but still beneficent stream. Those who look only at the shallowness of the modern stream and at the depth of the ancient wells are filled with forebodings. But we are confident that the future will prove these forebodings to have been due to a limited view of a large and complicated subject.

WE publish this week a clinical lecture on Symphysiotomy by Professor PINARD, in which he records thirteen cases of this operation performed either by himself or by his assistants in the Clinique Biodelocque during the year 1892. It is only necessary to mention the results obtained in this series of cases for it to be at once evident that the lecture is one of great interest and importance, especially to those concerned in the practice of operative midwifery. All the thirteen patients who underwent the operation recovered completely, and ten of the children were born alive, and were known to be thriving at the time when the lecture was given. In no case was the mother's power of walking impaired by the operation.

Such a record is one of remarkable success, of which Professor PINARD may be justly proud, and it can hardly fail to have an important influence on the obstetric art in other countries. If we refer to the details of the cases the evidence is for the most part as complete as could be wished that the result in each case was really due to the operation, and could not have been obtained by any other means, with equal safety to the mother. Thus in Case 2, though exact measurements are not given, we find that the pelvis was flattened, as the sacral promontory was accessible, two attempts were made to deliver by the forceps under chloroform without success, symphysiotomy was then performed, and a living child was easily extracted by the forceps. The child weighed over 10 lb and was twenty inches and a half in length. In several other cases previous confinements had only been terminated by basiotripsy. Subsequently, however, by means of symphysiotomy these patients were delivered of living children. Yet symphysiotomy is not a new operation—it is indeed an older operation than ovariotomy. At all events, the first symphysiotomy was performed by SIGAULT and LEROY in 1777, whereas the first ovariotomy is generally considered to have been McDOWELL's case in 1809. Some points of similarity may be observed in the history of symphysiotomy and ovariotomy respectively. Thus both operations had become almost obsolete during the first half of the present century. As regards symphysiotomy, HARRIS's table records seventy cases from 1777 down to 1858, with a maternal mortality of 37 per cent and a foetal mortality of 67 per cent. It is worth noticing that the last ten of these seventy cases were performed between 1836 and 1858 and show a maternal and a foetal mortality of 50 per cent. A table of fifty cases, from 1866 to 1880, chiefly by Professors MORISANI and NOVI of Naples, shows a maternal mortality reduced to 20 per cent and a foetal mortality of 18 per cent. If we look at the results of symphysiotomy since 1880 it seems to be the fact that on the Continent the operation has attained to the assured position that has long since been everywhere accorded to ovariotomy, and that it involves little or no risk to the mother. It cannot now be disputed that the space available for the passage of the foetus is serviceably increased by symphysiotomy performed on a woman *in labour*. Those who formerly maintained the contrary were misled by post-mortem observations made on the bodies of those who had not died during pregnancy or labour, or if on the bodies of those who had died in childbirth, the observations were made too long after death, for even two or three days have been found to make a remarkable difference in this respect. When the pubic bones are separated to the extent of six centimetres it has been shown that lines drawn from the sacral promontory to the ends of these bones are increased about fifteen millimetres. The gap so formed allows a projection of the foetal head beyond the bony ring of the pelvis. The gain thus obtained has been estimated as equivalent to an additional seven millimetres, making a total increase of twenty-two millimetres, or rather more than three quarters of an inch. The transverse and oblique diameters of the pelvis are also necessarily increased. Considerations based on these figures, and on the measurements of the foetal head at term, go to show that symphysiotomy is available at term in a simple flat pelvis.

having a conjugata vera of about 2½ in., or perhaps a trifle less (in the table of fifty cases already referred to there are two cases where the conjugata vera is given as 2⅔ in., in both the result was satisfactory in the case of both mother and child) It seems clear, however, that some at least of the fatality formerly attending the operation must be ascribed to its having been performed in unsuitable cases—cases where there was extreme contraction. Thus in SIGAULT's last operation (1778), which was fatal to both mother and child, the conjugate only measured about twenty three lines, and other similar instances might be cited. In this case the operation seems to have been undertaken with the deliberate object of substituting symphysiotomy for Cæsarean section, even in the highest degrees of pelvic contraction. That such a position is untenable is shown both by the excessive mortality attending such cases as well as by the researches of recent times that have been undertaken with a view to placing the operation on a rational rather than on an empirical basis. It would be premature, especially on the part of any English writer, to attempt to define exactly within what limits symphysiotomy may be expected to prove useful. One thing, however, is clear—namely, that the operation is preëminently suitable for those cases where the pelvis is just too small to allow of the delivery of a living child, and for those where the induction of premature labour with difficulty succeeds in bringing about the birth of a living child, even with the aid of instrumental assistance. The mortality amongst such of these children as are born alive is extremely high, as every obstetrician knows. It seems precisely in this group of cases that we may look for good results from modern symphysiotomy. It is a remarkable thing that so far as we know the operation has only once been performed in England, and that unsuccessfully, more than 110 years ago. The case was one where the pelvis was deformed in a high degree by osteomalacia, and the conjugata vera was only two and a quarter inches. The woman had been left a long time in labour, and the fœtus was putrid. Such a degree of contraction was of course too great for the case to be a proper one for symphysiotomy, moreover the fact of the patient having been a long time in labour and the fœtus being putrid made the case a very unsuitable one to serve as a test of the value of a new operation. Probably modern successes have been chiefly due to two things—the avoidance of the operation in cases of extreme contraction, and a strict observance of antiseptic methods. Unless English obstetricians are unable to obtain results similar to those reported from Italy and France, which we are unwilling to believe, they will, except in the rarest instances, be spared the painful alternative of either performing craniotomy on a living child, or of subjecting the mother to the risk of the Cæsarean section—an operation that, when all has been said, still remains one of considerable danger.

DR HUGH JAMESON, Resident Surgeon of the British Hospital, Monte Video, has had the degree of Doctor of Medicine and Surgery conferred upon him by the Monte Video Faculty of Medicine. This proceeding is unique, the usual practice in that territory being to recognise the diplomas which the medical man already bears.

Annotations.

"Ne quid nimis."

THE HUNTERIAN ORATION

SELDOM indeed has an audience more representative or distinguished met within the walls of the Royal College of Surgeons than that which assembled on Tuesday last—the centenary of the death of the famous investigator, biologist and surgeon, John Hunter—to listen to the Hunterian Oration delivered by Mr Thomas Bryant, the President of the College. The audience was honoured by the presence of His Royal Highness the Prince of Wales and of his son, His Royal Highness the Duke of York. It is about fifteen years since the Prince of Wales—who on that occasion was accompanied by Mr Gladstone—visited the Royal College of Surgeons to hear Sir James Paget deliver the Hunterian Oration, and the alumni of the College have good reason to re-echo the President's expression of their great appreciation of the honour which has been conferred upon it by this visit of their Royal Highnesses. The surroundings were very striking. The orator, in his robes of office, stood at the table, on which was placed a small timepiece which had belonged to John Hunter, which Mr Bryant assured his audience "goes well and keeps good time yet." Over his head hung the famous picture by Sir Joshua Reynolds of the man to honour whose memory they had that day assembled. The portrait is well known and somewhat dimmed in colour, but, as the rays of the setting winter sun glanced on the picture, the thoughtful, upturned eyes and general expression of quiet yet acute observation, seemed to cause the picture to glow with memories and associations. These appeared to become even more real as the orator detailed in his masterly oration the facts of Hunter's industry as a worker, of his transcendent capacity for taking trouble, of his humility, of his career as a seeker after truth, and of his work as surgeon. As a literary effort it is difficult to speak of the oration in terms of praise too high for such a masterpiece of industry and research and of arrangement, which gave new life to old facts and new interest to old theories. We feel assured that no one left the College of Surgeons on Tuesday without a stimulus to fresh industry, or, to use the orator's own words, "without a powerful incentive to continued good work." The portion of the oration dealing with the treatment of diseases by stimulants was peculiarly interesting, as were the observations on cancer and the quotation concerning Hunter's radical method of preventing hydrophobia. Mr Bryant concluded with the remark that the seeds of science which Hunter had sown possessed a germinal principle of life which guaranteed vitality. Their Royal Highnesses, before leaving, were conducted through the museum, accompanied by the President and Professor Stewart, the conservator of the museum.

THE SUPERINTENDENT OF STATISTICS

THE announcement of Dr Ogle's resignation of the post which he occupies in the department of the Registrar of Births and Deaths points to a vacancy in the immediate future which has great interest for the medical profession. Dr Farr gave to the post in question a distinctively medical character, and the reports which he issued as a medical statistician had a wide influence in educating the public to appreciate the value and significance of vital statistics in their relation to public health. Dr Ogle has not failed to maintain the standard of merit thus set, and the introductory chapters to the Registrar General's annual reports are known to have been largely drawn up by him. The selection of his successor is, under these circumstances, a matter of great importance both to the public and to the medical profession. Fortunately candidates are not wanting

who would do honour to the post. One is Dr Arthur White legge, who now occupies the position of medical officer of health to the West Riding of Yorkshire. He is also examiner in Public Health to the University of London, Milroy Lecturer to the Royal College of Physicians and author of a standard work on Hygiene, and most of his well known contributions to medical literature, including a paper on Measles which he recently read before the Epidemiological Society, show that he has a complete grasp of the value and bearing of statistics in relation to medicine. Dr John Tatham, the well known medical officer of health for Manchester, is also a candidate for the post. As an administrator Dr Tatham has done work beyond his fellows, and no one can read the excellent series of reports which he has issued on the health both of Salford and of Manchester without seeing that he has made vital statistics a constant and careful study. His recent Life Table for Manchester is also a piece of work of distinct statistical merit. Dr Newsholme, medical officer of health for Brighton, is also a candidate. His career at the London University was a distinguished one, and he is the author of a work on Vital Statistics which has considerable merits and which is much used by medical officers of health. Although the General Registrar Office is regarded as a department working in connexion with the Local Government Board, it is somewhat curious that the office of Superintendent of Statistics which is now in question is not in the gift of the President of that Board, but of the First Lord of the Treasury. It is, however, to be hoped that in filling the vacancy it will be borne in mind that the relationship existing between it and the public health service of the country is a close and intimate one, and that it is important that this relationship should be maintained and even rendered more intimate.

INSPECTION OF PREMISES OCCUPIED BY OUT- WORKERS IN CERTAIN TRADES

By the Factory and Workshop Act, 1891, it was enacted that the sanitary regulations affecting workshops should be placed under the direct control of the Sanitary Authority instead of that of the inspector of factories. The Act of 1891 was framed after the publication of the report of the Sweating Commission, and was intended to correct some of the grave abuses which the inquiry brought to light. By the Act of 1878 it was held that a place solely used as a dwelling shall not be deemed to form part of a workshop. It was precisely in the dwellings of the outworkers, however, that the worst evils of sweating existed. By Section 31 of the new Act it is provided that with the exception of rooms used solely for the purpose of sleeping, a dwelling shall be deemed to form part of a workshop. It is evident therefore, that by making the local authority responsible for the hygiene of workshops in their district powerful means have been placed in their hands for the improvement of the condition of the outworkers, although it is to be regretted that exception should have been made in the case of sleeping rooms for the purposes of the Act. On Nov 19th, 1892, a circular letter was addressed by the Local Government Board to the various sanitary authorities and we have been kindly favoured by Dr F J Waldo, the medical officer of health for the parish of St. George the Martyr, Southwark, with a copy of the report which he submitted to the vestry at the request of the Public Health Committee in reference to this letter. We are informed that the order requires the occupier of every factory and workshop, and every contractor employed by any such occupier in any of the following businesses, to keep lists of outworkers according to a prescribed form—viz., (1) the manufacture of articles of wearing apparel, (2) cabinet and furniture making and upholstery work, (3) the manufacture of electro plate, and (4) the manufacture of files. These lists are to be open to the inspection of the inspector of

factories or any officer of the sanitary authority. The medical officer of health and sanitary inspectors are particularly requested to examine these lists from time to time in order to familiarise themselves with places in which outworkers are employed and thus the more readily to correct existing evils. As Dr Waldo very rightly points out, power is thus conferred upon the sanitary officials of penetrating into the dens inhabited by some of the outworkers and of improving their hygienic surroundings. It would have been better, however, had no restriction been imposed by the Act in the definition of "workshop," so that every portion of the house might have been open to the inspection of the medical officer of health and his staff. By the recent Order further facilities will be placed in the hands of sanitary authorities for checking the spread of infectious disease, now but too frequently conveyed by wearing apparel and upholstery. It would appear that occupiers of the scheduled businesses have already evinced their readiness to coöperate with the Public Health authority, and although not required to forward lists of outworkers to the sanitary authority have all expressed to Dr Waldo their willingness to do so. It is clear, however, that although the factory may be situated in a certain district all the hands need not reside in that district. Indeed, many of them may live far afield. Consequently, unless some system of coöperation be instituted amongst sanitary authorities only a proportion of outworkers will be brought under supervision. Dr Waldo suggests two methods by which the difficulty may be overcome (1) "The coöperation—if possible in so unwieldy a city as administrative London—between the various sanitary authorities, so that the officer appointed in each district shall inspect the lists of workers in that district, and extract from those lists, and furnish to other metropolitan districts, a copy of all the necessary particulars regarding outworkers working outside his district," or (2) the more simple and efficacious plan—viz., "the organisation under the Home Secretary of a staff of inspectors with a chief whose duty it will be to inspect all the lists of outworkers and to exact from each metropolitan sanitary authority the requisite detail, and forward the same to the various medical officers of health." We are informed that the latter method has been adopted by the Home Secretary, so that we may hope that the organised system of inspection to which outworkers in the scheduled businesses will be subjected in the future may result in healthier homes and less over pressure.

THE NURSING OF CHOLERA PATIENTS

A CIRCULAR has been issued by the Special Committee of the Royal British Nurses' Association calling the attention of the various nursing associations throughout the country to the fact that in September last (as announced in THE LANCET of Aug 27th) a roll for nurses who would hold themselves prepared to attend in cases of cholera was opened by the Association. The action of that body in this regard was due to a suggestion made by the Princess Christian, and the appeal which her Royal Highness addressed to the nurses of Great Britain at the time elicited a prompt and favourable response. The Special Committee is intended to act as a central means of communication to which the constituted authorities can apply in times of emergency with some certainty of securing ready assistance, though it is not to be allowed to interfere with the financial arrangements or independence of any of the existing nursing institutions or agencies. Accompanying the circular are papers relating to the employment of nurses and suggestions for their guidance which have received the approval of competent authorities. The Special Committee are, we are informed, desirous of ascertaining the number of nurses whose services may be relied upon in the event of cholera prevailing in this country in the ensuing summer. In connexion with this subject it may

be mentioned that the second lecture of the session of the Royal British Nurses' Association will be held to-day (Friday) at 8 P.M., when Miss Annesley Kenealey will lecture on "Cholera Nursing."

AN INTERESTING RELIC

AFTER the delivery of the Hunterian Oration by Mr Thomas Bryant, the President of the Royal College of Surgeons, Dr Samuel Lee of St Leonards-on-Sea presented to the College the hair of the distinguished physician and physiologist, Dr William Hunter, F.R.S., brother of the celebrated John Hunter, which was left to the late Dr Robert Lee by Mr William Hunter Baillie in 1861.

THE DANGER OF WOODEN HOSPITALS

At a moment when so many sanitary authorities are hurriedly trying to make amends for past failure to provide their districts with isolation hospitals by running up temporary buildings there comes a serious warning from Kidderminster and from the other side of the Atlantic as to wooden buildings. At the County Lunatic Asylum, Dover, New Hampshire, a terrible fire broke out and no less than twenty-four lives were sacrificed. At Kidderminster the same catastrophe occurred, but happily the actual loss of life was limited to one patient, although the building was utterly destroyed. The most common practice at present in operation as regards temporary hospitals in this country is to build them of corrugated iron, but these buildings are as a rule lined throughout—floor, walls and ceiling—with wood, and hence they present a similar, though doubtless a much modified, source of danger. The warnings received will, we trust, conduce to a more general erection by sanitary authorities of properly constructed permanent buildings.

THE SALE OF PROPRIETARY MEDICINES CONTAINING POISONS

SOME time since the Pharmaceutical Society was congratulated upon having obtained an important decision respecting the sale of chlorodyne. Before a county court judge the Society was awarded a favourable decision in an action for penalties under the Pharmacy Act, 1868 the defendants being grocers, not chemists (would not the word "druggists" be more accurate in this respect?) who had sold chlorodyne. On appeal, before Mr Justice Lawrance and Mr Justice Collins, the Court upheld the decision of the county court judge, that the appellants not being chemists and selling chlorodyne were liable to penalties. The arguments used by counsel and the terms in which the judgment was delivered are alike of interest, even though it may be feared that a final solution has not yet been reached as the Court gave leave to appeal. The counsel for the defendants argued that, although chlorodyne was said to contain two grains of morphine to the fluid ounce, it was not a poison in the ordinary sense of the word, but if it was it came within the exemption of the section relating to "patent medicines." On behalf of the Society, Mr Poland urged that the Legislature had divided poisons into two classes—first, a class of more active and deadly poisons, which could only be sold by the chemist to someone known to him or introduced by someone who is known, and a second class, again only to be sold by chemists if the vessels containing them were labelled poison. Inasmuch as chlorodyne contained a 'preparation of opium or of poppies' he considered that it came within the second class and he denied that it was a patent medicine. Mr Justice Lawrance, in giving his decision said that he felt that the simple question to be decided was whether a person, not a chemist, could sell a proprietary medicine containing a poison, and, after some doubt, he had come to the conclusion that such a person could not do so. The idea of exemption as a

patent medicine was easily swept aside, and, for the present at least, it was ruled that if a medicine contained a poison mentioned in the schedule, that medicine ought to be labeled. As notice of appeal has been given, any detailed criticism of the merits of the case must be reserved. It may be sufficient to remind our readers of the frequency of fatalities from overdoses of chlorodyne, taken, presumably, in ignorance, and of the many occasions upon which this action of the Pharmaceutical Society has been urged by strong representations from coroners' juries. Meanwhile, whatever the final stage may be, it is impossible not to feel that this inquiry and this ventilation of the possible dangers of chlorodyne may work for good in limiting the reckless employment of this compound, whether it be a "patent medicine" or not.

AN IRREGULAR DEATH CERTIFICATE

MR. A. BRAXTON HICKS recently held an inquiry into the death of Richard Kullick, aged sixty, a master shoemaker, who had been attended till Jan. 24th by Mr Freeman, of 203, Blackfriars road, his club doctor. Thereafter he was attended by Mr Freeman's assistant, who had been known to the deceased's family as "Dr" Park, but who was unqualified. The certificate was in the handwriting of "Dr" Park, but was signed by Mr Freeman, and stated that he had seen the deceased on the 29th, that is five days after his last visit and two before the patient's death. He explained this at the inquest on the ground that when he signed the certificate he thought he had seen the deceased on the 29th. The jury condemned the action of the medical man.

THE MULTIPLICATION OF SPECIAL SOCIETIES

WE are threatened with another deluge—a deluge of special societies. One by one they multiply, and no man can say where they will stop. There is, we believe, already a Laryngological and Rhinological Society, though we have felt compelled to refuse the recognition of its separate existence, and we are now threatened with another—the Laryngological Society of London. The menace is not the less serious, but much the more so because the first list of names, beginning with that of Sir George Johnson, includes a large number of others whose authority in medicine and surgery generally we all cheerfully recognise. We really feel that this is an evil to be repressed. If we are to have a Laryngological Society, why not a Pharyngological Society and a Rectal Society, or to be still more particular, one society for fistula and another for cancer of the rectum. The gentlemen whose names are in this list and who give it weight are men whose reputation in medicine or surgery is broad and general. Take Sir George Johnson as an illustration. It has long been known that he though having a highly specialised knowledge of momentous organs, has taken special interest in diseases of the throat, in cholera, in diphtheria, and has shown himself to be familiar with disease in every department of medicine. We are sure that such a physician of the whole body will be proof against any tendency to take a narrow or specialistic view of any disease of one of its parts—a tendency which has brought great discredit on the profession and threatens to bring much more. Why should Sir George Johnson give his high sanction to a special society for the consideration of diseases of the larynx? Is there any conceivable reason for creating a society for such exclusive work that might not be urged with tenfold force in favour of the creation of a Nephrological Society? Life and time are very limited quantities. Neither students nor medical men have the leisure to go to an unlimited number of societies or hospitals. If every particle of mucous or serous membrane is to have its own special society and hospital it can only be at the expense of the general medical societies and the great general hospitals. This multiplication of societies is an evil as is that of hospitals.

It is to be counteracted by bringing special diseases to notice in the general societies and in the general hospitals, where they may be seen by students and general practitioners, who in their turn will be induced to cultivate the use of special methods and instruments. We have no faith in the specialism that is not, like Sir George Johnson's, evolved out of general experience and knowledge of the body. Such evolution is retarded rather than helped by special and close societies. We have abstained from using arguments against special societies and hospitals originating in a lower set of motives, as having no application to the gentlemen whose names are before us and who seem ready to become responsible for the creation of another 'superfluous' society. We prefer to base our objections on more general and higher grounds, and appeal to these very gentlemen to help us in averting the deluge.

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THIS somewhat unusual operation has recently been performed at two of our large London hospitals, St Thomas's Hospital and the London Hospital, by the obstetric physicians attached to them. We consider that the operators exhibited a right and just regard for the instruction of the students of the schools in which they are teachers by removing the patients to the hospitals named rather than in operating at the York road Lying in Hospital, to which they are also attached, and at which the patients first applied for aid. Amongst the large number of students who were present there were possibly some who may be called upon to act in similar cases, and it is not improbable that the details of the operations as witnessed respectively on the 8th and 9th inst will be remembered and will give the necessary confidence and knowledge to enable them to save lives. On Wednesday, the 8th inst., Dr Herman operated at the London Hospital. The case was one of extreme rickety deformity. Labour had come on at the end of the eighth month of pregnancy and the liquor amnii had escaped. The uterus was opened while within the abdomen and pressed out of the wound after the child had been extracted. The uterine wound was closed with eight interrupted silk sutures, passing through the muscle but not through the decidua, and a fine continuous catgut suture of the peritoneum. The child was living, and at the date of our last report (Feb 14th)

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If the entire reducing action of the normal urine can be accounted for by the uric acid and kreatinin which it contains, as is so positively stated by Mr Johnson, it is clear that there is no room for believing that glucose or any other carbo-hydrate with a "reducing" action can be present in normal urine. Phenyl hydrazine is a derivative from phenol.

CHOLERA SURVEY

THE general visitation of port sanitary districts in anticipation of the recrudescence of cholera during the present year is now in full working order, and the medical inspectors of the Local Government Board are actively engaged in the duties on several portions of the coast. Thus we hear of Mr T W Thompson in Northumberland ports, of Dr Copeman at Great Yarmouth, of Dr Theodore Thomson at Cowes and Portsmouth and of Dr Bulstrode at Poole and Falmouth. Inspection of riparian districts will follow that in the port districts, and, as in 1884-86, a number of urban and rural inland districts will need special visits with view to such action as will tend to free them from risk in case of the importation of cholera.

THE NEED OF MEDICAL EVIDENCE IN CASES OF ALLEGED INSANITY

OUR attention was recently directed to a curious anomaly in certain legal proceedings at the Cape, an account of which we published in a letter from Dr Cartwright Reed in our issue of Jan. 21st, at page 167. The writer had up to the occurrence of the case which he records been under the impression that "no person could be pronounced of 'unsound mind' without the support of medical testimony." He doubts whether any British jury would venture to return such a verdict unless it was supported by expert evidence. It cannot but be regarded as a most unsatisfactory proceeding that any person should be adjudged to be insane without the support of medical testimony. That a British jury has power, even in a criminal case, to return a verdict of "Guilty of the act, but insane at the time it was committed," without medical evidence is shown in the case of the Rev Henry J Dodwell, who was tried before the late Baron Huddleston in March, 1878, for "assault" after firing a pistol at the then Master of the Rolls, Sir George Jessel. Mr Dodwell was ordered to be detained during Her Majesty's pleasure as a criminal lunatic. We are strongly of opinion that cases where the existence of insanity is alleged ought never to be decided without medical evidence.

THE DIFFUSION OF SMALL-POX

THE diffusion of small pox still continues and there seems to be no diminution in the number of places attacked, but, on the other hand, no new outbreaks of any considerable dimensions are reported, and in most of the towns in which a rapid increase seemed imminent there has been a distinct reduction in the number of fresh attacks. It is as yet too early to speak with any confidence as to the prospects for this spring, but it is quite possible that next winter and spring may be for us the most serious point of the present prevalence, and not the next few months. If once we can tide over the month of May our anxiety as to an epidemic on a wide scale for this year may be at an end. There is, however, still time for a wide prevalence during the three months which have yet to elapse. Amongst the places as to which fresh news comes to hand we note the following: Aston Manor, Barnard Castle, Bedford, Birmingham, Blackburn, Bradford, Bromyard, Bury, Carlisle, Chadderton, Cogan, Crewe, Derby Densport, Dover, Exeter, Enfield, Failsworth, Guildford, Halford, Huddersfield, Jarrow, Ledbury, Leeds, Leicester (where the new attacks last week were only six in number), Liverpool, Liversedge, Macclesfield, Manchester, Middlesbrough, New-castle-on Tyne, Nottingham, Oldham (where fifteen fresh

attacks have occurred during the past week), Preston, Rotherham, Runcorn, St Helen's, Salford, Sheffield, South Shields, Stalybridge, Southampton, South Stoneham, Stockport, Spennymoor, Shrewsbury, Sunderland, Swansea, Wakefield, Warrington, Warwick, Wigan, Widnes, Wolverhampton, Yeadon and York. In the metropolis the disease continues slowly to extend. There were 109 cases of small pox on board the hospital ships on the 13th inst, in addition to a few cases at Highgate.

MR GLADSTONE'S SPEECH

WE must leave to politicians the appraisement of Mr Gladstone's speech on Monday, regarded as a piece of statesmanship, but regarded from a medical or physiological point of view there can be no difference of opinion. The performance must be regarded and must remain not only as historical, but probably as unique in the history of eloquence and of States. Those who were privileged to be amongst the audience will never forget the scene or the speaker. In the crowded chamber, filled with all that was distinguished and influential in British society, his voice was heard for the first hour of the speech with perfect ease, and even when its physical force began to abate it was still felt as an influence altogether exquisite and refined. No difference of opinion could avail to save the listener from the spell of a voice, always seconded by the choicest amenity of expression, which it may safely be said has no rival in contemporaneous Parliaments. The wonder of all this is doubled by the fact that the speaker is in his eighty-fourth year. Though there was a perceptible falling off in the force and volume of voice as the second hour was reached, the animation of the orator was all intact. His eye, and especially his right hand brought into emphatic contact with the table from time to time, testified to the vehemence of his thought and feeling, and when occasion required it, as for the delivery of a passage of special importance or the final peroration a reserve of voice was again and again drawn upon, and the enthusiasm of the mighty audience swelled the effect of the eloquence by which it was itself swayed. The most marvellous part of all was to see the orator after he had resumed his seat looking as serene as if nothing unusual had been done, and to learn that he went home to dine quietly with his family and to sleep with as little disturbance as if he had only been engaged in the most ordinary occupation. The record of eloquence is beaten by our octogenarian Premier, and, apart from any consideration of politics, with which we are not concerned, we are all very proud of him.

CHOLERA AND ALIEN IMMIGRATION

THE question of alien immigration has been brought prominently before the country by means of Mr James Lowther's amendment on the Address, but it is clear that the Government are not prepared to put a stop to it or even to that portion of it which can be properly styled "destitute." Some stimulus in the direction aimed at by Mr Lowther has evidently been brought about by the attitude adopted by the Local Government Board in their amended Cholera Order, but it should be made clear that this Order only professes to deal with a public health question and not with one that has to do with foreign labour or imported pauperism. The immigration last autumn of expelled Russian Jews into this country *via* Hamburg constituted a danger to public health not because they were poor and alien, but because they were unable to give that guarantee as to some definite address to which they were going and where they could be kept under supervision by the local health officer during the incubation period of cholera. Hence when passengers from infected ports are "filthy or otherwise unwholesome," or when they are unable to satisfy the port medical officer of health as to their names, places of

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Pharmacology and Therapeutics.

TOXIC EFFECTS OF BARIUM SALTS.

It has been known for some considerable time that if salts of barium are given in large doses toxic effects are produced. Cases of poisoning of human beings by these salts are, however, extremely rare. Nevertheless as the therapeutic value of the compounds of barium has been more fully recognised lately than formerly, it is important to ascertain what the poisonous symptoms of large doses of such salts are, and with this object Drs. Pilbet and Malbecq have made a series of experiments on animals. Chloride of barium was administered subcutaneously in doses corresponding to a centigramme for every kilogramme of body weight of the animal experimented on. With such doses death occurred within twenty-four hours in dogs, with less powerful doses the animals lived longer, but in all cases toxic phenomena presented themselves. These consisted of persistent vomiting, diarrhoea, albuminuria and hæmoglobinuria, and convulsions followed by rigidity. After death various lesions were found in most of the organs, the most usual being nephritis, the glomeruli of the kidney being especially affected, and hæmorrhages being also noticed in the straight tubes. Lesions in the cellular structure of the labyrinth were particularly common. These pathological changes contrast very strongly with those observed in acute poisoning by mercury in such cases there is a granular infiltration in the secreting cells of Heidenhain, this infiltration produces an exaggeration of the striation naturally seen in the cells of the convoluted tubes. On closer examination, again, minute traces of hæmoglobin were found in these cells. On examination of the deposit obtained from the urine similar particles of hæmoglobin were found. The histological appearances corresponded exactly with the symptoms observed during life—albuminuria and hæmoglobinuria.

CHLORIDE OF ZINC IN PULMONARY TUBERCULOSIS

Dr. Jules Comby publishes in *L'Union Médicale* No 1, 1893, the results of injections of chloride of zinc in cases of pulmonary tuberculosis. All the cases were early ones, the disease being confined to the apices. The strength of solution employed varied from 1 in 50 to 1 in 20. No bad local effects were produced nor were any unpleasant constitutional symptoms noted. Three drops were introduced by the means of a hypodermic syringe, and the dose was repeated every third or fourth day until four to six injections had been given. The results, Dr. Comby considered, were favourable in the three cases in which he tried the treatment and he maintains that it merits further trial. He was able to demonstrate that a solution of chloride of zinc in the strength above stated could be injected into the lungs, two or three drops at a time, without any danger and the injections might be repeated without further risk. His object is to produce a cure in the same manner as occurs in the natural arrest of the disease—namely by development of fibrous tissue. By his experiments on tubercular joints he claims that chloride of zinc tends to promote the formation of fibrous tissue and thus to bring about the desired result.

NAPHTHOL AS A VERMIFUGE.

Naphthol having recently been recommended as a vermifuge, M. Dubois of Amiens has reported a case in which he found it successful after all other vermifuges had failed. The patient was a girl of sixteen who had suffered from vomiting for several months and the diagnosis pointed to worms as the cause the vomiting continuing in spite of varied treatment and the girl becoming much emaciated, he decided to order four grains of naphthol three times a day. In the course of a few days she passed thirty-four round worms the vomiting then ceased and recovery was rapid.

BORATE OF SODA IN PARALYSIS AGITANS

Borate of soda, which has been found useful by various authorities in epilepsy has been tried with remarkable success by Dr. Sacaze, *chef de clinique* in Professor Grasset's wards in Montpellier in a case of paralysis agitans where the actual current electricity, suspension, iodides and various other forms of treatment had proved fruitless. The drug was given at first in four grain powders three times a day and after a few days the dose was gradually increased

to about double that quantity. An improvement was manifest by the end of the first week, and after that the patient's condition continued to improve still further. After a time he was able to walk, to speak distinctly to feed himself, and to write, none of which things he could accomplish before the borate of soda was commenced. No disagreeable effects were produced by the drug.

THE ACTION OF ANTIPIRETICS OF THE AROMATIC SERIES ON THE BLOOD

M. Schmidt Professor of Therapeutics at Nancy, has made a series of experiments as to the action of fourteen antipyretics on the blood. He experimented on guinea pigs, rabbits and dogs, some of which were in a healthy condition, whilst others were rendered febrile by the injection of septic or tuberculous matter. He found that all the aromatic antipyretics which he studied caused in a greater or less degree alterations in the blood—the fixation of oxygen by hæmoglobin, the transformation of oxyhæmoglobin into methæmoglobin, the diminution of the respiratory capacity of the blood and even destruction of the corpuscles. These alterations vary according to the nature and dose of the agent, but they all bear some relation to both the period and the extent of the antipyretic action. The substances may be divided into the three following groups: (1) those (such as phenacetin and antipyrin) which in a medium dose (that is to say a dose causing a thermic depression of 1°, 2° or 3° C) only produce the fixation of oxygen by hæmoglobin, (2) those, such as anisic acid thallin, eutibermine, kaurin, exalgin, methacetin and acetilamidophenol, which in a medium dose only produce intra-corporal methæmoglobinæmia, (3) those such as anilides (acetanilide or antifebrin, formanilide, methylformanilide) and pyrocin, which in medium doses (especially repeated ones) produce methæmoglobinæmia with destruction of corpuscles. Dr. Schmidt believes that these narcotics may be found to be excellent analgesics in the case of patients whose corpuscles are healthy, intact and resistant, but as antithermics their value is open to question and they are for the greater part dangerous on account of their toxic action on the blood. They should on no account be given to uræmic subjects who all have too little hæmoglobin and too few corpuscles, nor should they be given to patients suffering from fever, when the corpuscles have already been affected. Their action, however, on the corpuscles being of short duration, they may be employed in cases of hyperpyrexia in order to bring the temperature down to a less dangerous point, or they may be used in ephemeral fevers, for these phenacetin, or, better still, antipyrin, is useful as having the least effect on the blood. Antipyrin in small doses never gives rise to methæmoglobin.

BROMIDE OF ETHYL ANÆSTHESIA.

Dr. L. S. Ginsburg in his graduation dissertation in the Imperial Medical Academy of St. Petersburg gives an account of a large number of observations on the pharmacological action of bromide of ethyl on dogs and rabbits which he carried out in Professor Pavloff's laboratory. He administered it by inhalation, by artificial respiration of the vapour and by intravenous injection of an emulsion. He finds that the inhalation of air containing a small quantity of the vapour induces sleep, the blood pressure remaining normal and the pulse becoming more rapid though not losing its regularity. If the air is charged to a greater degree with the vapour the blood pressure is at first markedly lowered, but in consequence of the changes in the respiration and the consequent diminution of vapour inhaled the blood pressure afterwards rises to a little above normal. The irregularities of the cardiac pulsation which occur during the diminished blood pressure disappear as it rises again. If the air is charged with a very large quantity of the vapour there occurs only a slight secondary rise of the blood pressure, doubtless because of the injurious effect of the vapour upon the regulating centre of respiration. In this case respiration is rapidly arrested. The acceleration of the pulse after the inhalation of air containing a small quantity of vapour depends on the stimulation of the automatic cardiac centres or of the accelerator nerves. The slowing which follows the inhalation of a series of large doses is due to the diminution of the irritability of the cardiac muscle. The fall in the blood pressure arises from paralysis of the peripheral vaso-motor nerves, and if the doses are large the heart assists in producing this fall. Bromide of ethyl has no effect on the pneumogastric nerves the vaso-dilator centres or on the peripheral vaso-dilator nerves. Dr. Ginsburg's researches

destination and addresses at such places, their landing at our ports can and should be refused. In some ports action as to this has been suspended, in the Port of London it has not been felt safe to forego the requirements of the Order during the winter months, and at all ports it may soon become necessary to put the terms of the Order into operation again as regards the classes referred to. But such action has no reference to anything other than the protection of the public health from cholera. If alien immigration comes to be dealt with as a whole and for other purposes, it will not be on medical grounds such as those to which the terms of the Cholera Order are limited.

FOREIGN UNIVERSITY INTELLIGENCE

Chicago (College of Physicians and Surgeons)—Dr Henry T Byford has been appointed to the chair of Gynecology in succession to the late Dr Reeves Jackson.

Marseilles—Dr Magail, Professor of Clinical Midwifery, has retired and Dr A. E. Queirel has been appointed to succeed him.

Palermo—Dr Tansini of Modena, has been appointed Professor of Clinical Surgery.

Paris—Dr Brouardel, Professor of Forensic Medicine, has been appointed Dean of the Medical Faculty for a term of three years.

Philadelphia (Jefferson College)—Dr Schweinitz has been appointed Professor of Ophthalmology.

St Petersburg (Military Medical Academy)—Drs G. U. Yavein, S. S. Botkin and M. M. Volkoff have been recognised as *privat-docenten* in Clinical Medicine and Dr B. V. Tomashevski as *privat-docent* in Clinical Neurology.

Tomsk—Dr A. T. Sudakoff, Professor of Hygiene and Medical Statistics, has been appointed Rector of the University for a term of four years in succession to Dr Velik, Professor of Physiology.

Turin—Dr Dionisio has been recognised as *privat-docent* in Laryngology and Rhinology.

THE seventh session of the French Congress of Surgery will be held in Paris at the Faculté de Médecine on Monday, April 3rd, 1893, under the Presidency of Professor Lannelongue of Paris. The first meeting—devoted to various subjects—will take place at 9 A.M., in the grand amphitheatre of the École de Médecine. The chief inaugural meeting will take place at 2 P.M. Two subjects have been selected for consideration by the Congress—(1) Fibrous Tumours of the Uterus, (2) the Surgical Treatment of Tuberculous Diseases of the Foot. The mornings will be devoted to visiting the hospitals and to the discussion of diverse subjects. Members are requested to send the titles and abstracts of their papers, not later than Feb. 15th, to M. Félix Alcan, Secretary, 108, Boulevard St. Germain, to whom also all requests for information concerning the Congress may be addressed.

IN the paragraph in last week's issue announcing the appointment of Dr Anderson Stuart as Medical Adviser to the Government of Sydney, N.S.W., it was unfortunately stated, owing to a clerical error, that the appointment was made "in the place of Dr F. Norton Manning, 'deceased'." The latter word should have read "resigned." We sincerely trust that the mistake, which we much regret, has not caused either inconvenience to Dr Manning or anxiety to his numerous friends.

MR. H. MANSFIELD ROBINSON, LL.D., clerk and solicitor to the Shoreditch Vestry, has pointed out to the Lord Mayor that the provision in the new Public Health (London) Act, 1891, which requires sanitary inspectors to possess certificates of competency would do more harm than good unless such certificates were granted only after a proper practical test.

THE Italian Government has just issued an "ordinanza" recalling into force that of November, 1892, which establishes medical examination of all ships hailing from French Mediterranean seaports, with power to relegate the same to the sanitary stations in cases of suspected illness on board. The "ordinanza" also interdicts the introduction of soiled goods from France into Italy, by land or sea, until these have been disinfected.

THE second Hunterian Society lecture of the session will be delivered by Mr Walter Rivington, B.A., M.S. Lond., consulting surgeon to the London Hospital, on Wednesday next, the 22nd inst., at the London Institution, Finsbury Circus. The lecture is open to all members of the medical profession. Its subject will be "Certain Branches of Operative Surgery."

THE annual public meeting of the University College Chemical and Physical Society will be held at the College on Friday, Feb. 24th, when an address will be given by Professor Watson Smith, F.I.C., F.C.S., entitled "Diseases incident to Workpeople in Chemical and other Industries." The chair will be taken by Dr E. T. Roberts at 8 P.M. Specimens of apparatus will be on view.

A CONFERENCE of representatives of the Port Sanitary Authorities of England and Wales, having for its object the consideration of the necessary measures for the prevention of the introduction of cholera into this country, will be held, in the Council Chamber of the Guildhall, to-day (Friday) at 2 P.M., under the presidency of the Lord Mayor.

THE members of the Anatomical Society of Great Britain and Ireland will hold their general meeting on Feb. 27th, at 4.30 P.M., at Charing Cross Hospital Medical School. After the election of new members a number of interesting specimens of abnormalities will be exhibited and three papers will be read.

THE 120th anniversary dinner of the Medical Society of London will take place at the Whitehall Rooms, Hôtel Métropole, on Wednesday, March 8th, at seven o'clock precisely, Jonathan Hutchinson, Esq., F.R.C.S., F.R.S., President, in the chair.

HER MAJESTY has selected Dr William Job Collins to be a Fellow of the University of London in the place of the late Lord Sherbrooke. Dr Collins's name was placed first on the selected list by the recent vote of convocation.

WE understand that Professor Charteris of Glasgow University has been requested to prepare and read a paper on Sea sickness before the Congress of Médico Climatologists at the Chicago Exhibition, and that he has consented to do so.

DR. CHARLES CHAUVET, formerly *chef de clinique* in the Lyons Faculty of Medicine, has been sent by the French Government to Russia for the purpose of studying the frequency, the causes, and the treatment of neurasthenia.

THE Milroy Lectures will be delivered by Dr A. Whitelegge in the theatre of the Laboratories, Examination Hall, Victoria Embankment, on Tuesday and Thursday, Feb. 21st and 23rd, at 5 P.M.

ON Friday, Feb. 17th, a dinner was given by the Port Sanitary Committee of the City of London at the Albion Tavern, Aldersgate street, London. Mr David Burnett occupied the chair, and amongst those present were the Right Hon. the Lord Mayor and the Sheriffs and representatives of the Port Sanitary Authorities of England and Wales.

entertain or consider any proposals tending to connect the State with hospital management, which appeared to be as much a *dele noire* to them as it seems also to be to the uncompromising advocates of private charity and thrift.

The limits of the voluntary principle have evidently been reached and passed in London. One of the most learned and benevolent workers and writers on the management of the poor said, in dwelling on this subject some fifty years ago, that when the subject of private charity is thus narrowed, if we trust to experience and not to speculation as our only safe guide, there is clear and overwhelming evidence of the inadequacy and insufficiency of voluntary charity in advanced stages of society, to supply what is needed for the wants of the poor in their own interests and in those of society itself. This is, indeed, the guiding principle of the Poor laws themselves when administered with the care, judgment and humanity required to mitigate those elements of harshness which are to a great extent inseparable from them.

Upon this subject, after careful study and considerable personal experience, I entertained and published some ten years since, in THE LANCET and elsewhere, when advocating an official inquiry into the subject, views and suggestions which are as applicable now as they were then and long before. We have recently had our distinguished committee of inquiry, not exactly in the form best adapted to settle the question, yet a notable and valuable landmark for future guidance. This inquiry has thrown some most useful side-lights, but afforded no fresh information on the subject, and the question appears to be little nearer to solution than when dealt with by Sir John Simon in 1863 and by myself in 1883. Another decennium has passed and a century has elapsed since the promulgation of the masterly report of Tenon, yet the whole question is again under review.

But times and thoughts and manners and customs have since undergone complete and almost revolutionary changes in their adaptation to the progress and wants of the present. In the high pressure life of the Victorian era, in most social and almost all national and international relations, old landmarks have been removed, and the accepted facts of yesterday have become the rejected fictions of to-day. The rapid advances of science in its applications to the purposes of life in association, have added much to the comfort and happiness of mankind, and in no branch of sociology has this been more manifest than in the progress of medicine in the relief of sickness and the prolongation of life. To it we owe the priceless blessings of extinction of pain in disease and the robbing of many sources of destructive diseases of their powers of evil.

Why, then should not our hospitals be brought into harmony with this progress, and accept instead of reject changes which have become imperative? It is true that some old practices and customs die hard, more especially when those who have a personal interest in their continuance resent any interference with them. Yet, it is impossible in the long run to resist the advancing tide of civilisation, and it is wiser to bend than to end such matters. For example, there are few problems connected with the phenomenal growth of London that are more complex in character more encumbered by conditions of life of which little that is certain is known, and in consequence more difficult of solution than that of the relief of the sick poor in an aggregation of human beings on a restricted area, some 30 000 or more to the square mile such as the world has never before seen. They comprise every caste, class and almost race and condition of life from the highest down to the most squalid objects of misery, destitution and suffering in existence, most of which conditions are factors of more or less significance which need consideration in dealing with all the greater problems of sociology connected with the management of the poor.

I would rather reproduce what I wrote on the subject some years ago than consider it with the light and experience that have since been brought to bear upon it, for obvious reasons. I then said that from a careful review of the whole question taking into account the vast proportions of the poor of London [and of those immediately above them, the artisan and working classes generally] the resources of the general hospitals voluntary and endowed, are becoming dangerously strained, that from their quasi-alms character and consequent conflicting regulations and interests a large number of the really poor for whose relief they are intended are excluded from their benefits whilst many who can afford to pay for medical care and treatment receive them gratuitously, a demoralising proceeding, tending to prevent the exercise of thrift and

destroying the principle of self restraint and self denial in even a more objectionable manner than the grave abuses of the out-door medical relief intended for the permanently destitute.

General and indeed all other hospitals are public institutions of the first necessity, and no personal or proprietary rights in relation to them should be permitted to interfere with their regulation in the interests of the public. This regulation can be carried out so as in no way to interfere with the maintenance of such control and management by the subscribers and supporters, as will not be inconsistent with that object. A system can surely be devised to harmonise public aid with the action of the voluntary institutions so as to secure to the latter all such rights and privileges as can be justly allowed in the terms of their charters and the conditions of their subscriptions and bequests, but always without detriment to their primary purpose—the relief of the sickness of the poor compelled to resort to public institutions in their hour of need. Charity should not, I think, be a purchasable commodity, and I concur entirely with those who are of opinion that it is not money so much as organisation that is most needed. Charity would then occupy its proper place in all schemes of benevolence, and not be allowed to assume a predominating voice and influence in the management of such composite institutions as hospitals. In my next communication I shall examine various details of the question which are contained in the report of the Select Committee of the House of Lords.

Durham Villas Kensington W

CHOLERA.

CURRENT NOTES, COMMENTS AND CRITICISM.

THE sharp outbreak of cholera at Marseilles, to which we called attention last week, like other outbreaks of a similar nature elsewhere, attained its maximum development in the course of a few days and then began to decline. On the 11th inst. there were only 6 deaths from choleraic disease, and on the following day there were 8 deaths registered from the same cause and a few fresh cases were also reported. We have no official notification of the exact nature and extent of the disease that has prevailed, nor have any assigned causes of its origin been definitely stated. It is alleged, however, that the comma bacillus had been found in one case, but not in all the cases that had been bacteriologically examined. The sanitary state of Marseilles is now stated to be satisfactory. Since the 13th inst. no deaths or fresh cases of choleraic disease have occurred.

The reports from the Nettleben Asylum are satisfactory, the outbreak at that institution, although of a very severe and fatal character, having run its course within a comparatively limited time.

It is important to preserve a precise record of the facts connected with these circumscribed outbreaks of this disease in order to see whether some law or average cannot be deduced by comparing a number of these occurrences together as to what is the duration of such outbreaks under given circumstances. Cholera, like other diseases, has its own natural history and laws and until a systematic attempt is made to arrange and classify all the facts about it we are not likely to formulate any scientific and useful conclusions. Results that are natural and would in any case have followed in due course are likely to be sometimes erroneously attributed to the action that we have ourselves taken, unless we first of all know what is the natural course of an epidemic disease under given circumstances.

CHOLERA IN FRANCE

(FROM OUR SPECIAL CORRESPONDENT)

A VISIT TO CALAIS

How Cholera came to Calais.—Forcible Measures.—Draining into Canals.—The Channel Steamers and Cholera.—The Subsoil Water

WHEN describing the improved facilities for travelling on the Continent I gave some account of the drainage of Calais and the progress that had been accomplished of late years, but, though many new sewers have been built, as will be seen

show that bromide of ethyl narcosis can be obtained while the blood pressure remains normal, and that when too much bromide of ethyl is given the cessation of respiration precedes that of the heart, but, at the same time, his experiments prove that large quantities introduced into the blood cause considerable disturbance in the heart's action. This last point is one of great practical importance, and shows that in bromide of ethyl narcosis the same precautions ought to be taken as in the administration of chloroform. Anæsthesia comes on rapidly but goes off very soon after the inhalation is stopped, though where the operation is a long one care must be taken that the patient should inhale a sufficient quantity of the vapour. Although bromide of ethyl cannot in all cases serve as a substitute for chloroform, Dr Ginsburg is convinced by personal experience that it is frequently preferable to the better known anæsthetic.

ON THE ORGANISATION OF MEDICAL RELIEF IN THE METROPOLIS

By F J MOUTAT, LL D, M D EDIN, F R C S ENG

PART II

'Quousque tandem abutere patientia nostra?'

AFTER many years of discussion and consideration, with several unsuccessful efforts on the part of the medical profession to obtain an authoritative investigation of the management and working of the hospitals and cognate subsidiary institutions of the metropolis, the Charity Organisation Society—an irresponsible non medical body—procured the appointment of a Select Committee of the House of Lords to obtain evidence and report upon the matter. The formulation of the resolution, which was moved by Lord Sandhurst and agreed to, did not contain any indication of more than a restricted investigation, in which some of the most important factors involved had no place. The financial and charitable aspects of the many questions which needed investigation were manifestly the main purpose of the inquiry, as might be expected from its motive power. Their lordships, however, fortunately interpreted their functions more largely and liberally, and yet not sufficiently so to prepare a matured case for legislative action, as I shall endeavour to show in my review of their report.

The resolution was as follows: "That a Select Committee be appointed to inquire with regard to all hospitals and provident and other public dispensaries and charitable institutions within the metropolitan area for the care and treatment of the sick poor which possess real property or invested personal property in the nature of endowments of a permanent and temporary nature, and to receive, if the committee think fit, evidence tendered by the authorities of voluntary institutions for like purposes or with their consent, in relation to such institutions and further to inquire and report what amount of accommodation is provided by rate and as to the management thereof, and that the witnesses before the said Committee be examined on oath." Accordingly a strong committee of fifteen members, headed by the Archbishop of Canterbury, was formed, and first met on May 5th, 1890. The committee sat for two years and furnished three reports, as well as an excellent analysis of the evidence taken, together with tabular statements of the system of government of all the general and special hospitals and dispensaries and useful details of such particulars as are necessary for their right understanding. These tables are somewhat difficult of reference, but are of great present and future value in the study and determination of the very important questions to which they refer. I endeavoured, in studying the evidence and report, to compare the latter with that of Messrs Bristow and Holmes in 1863 in their bearings on the questions as a whole, but I found that no comparison was possible, as the two inquiries were conducted on different lines and for a different purpose. The one was by experts who were thoroughly acquainted with the task before them, the other was by noble men eminent in entirely different and more exalted walks of life and of unimpeachable impartiality, but possessed of no technical knowledge and previous training to guide them in expressing an authoritative judgment on the purely medical and scientific aspects of the inquiry committed to

their charge. The absence of such knowledge was evident in much of the evidence taken with a patience and manifest desire to get at the truth which command grateful acknowledgment. But the net result of the proposed solution of the question is to substitute as a ruling power, *caritas for sanctas*, a position which the recent proceedings of the subcommittee appointed to frame a scheme for a Central Board of Hospital Control for London render it probable will not be accepted by the authorities of the institutions to which it was to be applied. It will thus prolong a period of *laissez faire* which has already lasted much too long, and which is calculated to culminate in the undesirable transfer of the whole matter to the State. The interests of the sick poor are far too important to be sacrificed or subordinated to the precariousness of private charity or the continued untrammelled control of bodies which have heretofore successfully resisted all public scrutiny of their proceedings.

The committee in their concluding paragraphs foreshadow this in formulating their suggestions for the creation of a central hospital board for London—

Paragraph 624—In sketching the foregoing outlines of a central body, the committee are desirous of expressing their opinion that some more satisfactory organisation of medical charity is most desirable. It should always be borne in mind that the establishment of Poor law infirmaries and rate-supported asylums under the Metropolitan Poor law Act of 1867 has in great measure altered the relations between the poor and the hospitals, and everything associated with medical charity, and the committee cannot shut their eyes to the possibility, if some such organisation as they have recommended is not adopted, that a time may come when it will be necessary for hospitals to have recourse to Government or municipal subvention.

Paragraph 625—It is shown by the evidence that, apart from the three endowed hospitals, the general hospitals in London are maintained principally by the legacies they receive and by large donations from unexpected quarters. In most cases the subscriptions from annual subscribers do not suffice to pay the wages of the servants and nurses in the service of each hospital, to say nothing of the cost of maintenance and administration. It has been authoritatively stated that from £50 000 to £55 000 per annum are required to render available the 1800 or 2000 vacant beds which are said to exist.

Paragraph 626—One endowed hospital is maintained entirely by its endowments, but the two others are so short of funds that many beds are closed to the sick poor.

How is it possible, in the face of so startling a revelation as this, to maintain the existing system? A speculative and unsound scheme of socialism can command a levy of £100,000 with a demand of £30 000 annually for its maintenance. An endowed hospital, with a diminished endowment of £28 000 a year—which ought, however, by careful and judicious economy and management, to be amply sufficient to fill its beds—can also raise £100,000 which is employed for its current needs, instead of adding to its permanent income, whilst most of the voluntary hospitals are starved. There are other indications of injudicious or extravagant management which appear to me to prove that the time of change of procedure predicted by the Lords' Committee has arrived, and that the setting in order of the house should be no longer delayed. The statement, then, of the Lords' Committee reveals and establishes the fact of the failure of the voluntary system in relation to the general hospitals of London. The evidence does not indicate the exact causes of this failure, if they can be ascertained, but it clearly shows that there is something radically wrong in a system of management which takes no effective steps to prevent its being injurious to the sick poor. It is to be regretted that their lordships, with this failure before them, did not examine more closely into the system adopted in the Poor law infirmaries, so as to bring them more into harmony with the general hospitals. This can easily be done by extending the principles of management of the former, robbed of their indefensible harshness in the working of that portion of the Poor laws which compels temporary poverty from sickness to be regarded and treated as destitution. This is moreover, the origin of one of the chief abuses of the voluntary system—that of affording gratuitous relief to many who have no claim to it from want of means or any other cause. It is a part of the old fallacy of the immorality of State aid in charity as compared with private benevolence for the same end, which latter is infinitely more abused and demoralising, and a much greater enemy to thrift than the former. Their lordships declined, however, to

MAP OF CALAIS

THE CHANNEL



Dotted line old sewers. Thick line new sewers.

by examining the accompanying map, the sanitation of the town is still very imperfect. Under such circumstances it is not surprising that some cases of cholera should have occurred at Calais during the autumn. These cases fortunately were not numerous, probably about seventy in all, but they suffice to demonstrate the danger that besets a town which is situated on the high road of international communications and which is yet so imperfectly drained. Whatever may be the number of cases of cholera, and thus, even where the most careful record is kept, can never be very satisfactorily ascertained, there were, according to M. Cuisinier, the "doctor for epidemics," twenty-four deaths due to cholera. Cholera is supposed to have been brought to Calais by some fishermen from Portel, a suburb of Boulogne sur Mer, and it seems very probable that Portel was infected by excursionists from Paris. Towards the end of September a fishing smack arrived at Calais from Portel with a youth, an apprentice, ill on board. The authorities at Calais did not feel disposed to take charge of the patient, and the skipper of the fishing boat was forbidden to bring him into the town. The skipper consequently hired a carriage and drove the sick youth from Calais to Boulogne. As cholera already prevailed in the latter town, the patient was properly nursed and he recovered. The skipper, having thus successfully disposed of his apprentice, now returned to Calais and was staying in the town when he in his turn was attacked by cholera. The case was so serious that he had to be taken to the Calais hospital, where he died. Thus apparently was the first death due to cholera at Calais. I made some inquiries, but could find no trace of the carriage which had conveyed the skipper and his apprentice to Boulogne, nor was there any record to show that it had been disinfected. When, however, the skipper himself died in the Calais hospital the authorities awoke to the gravity of the situation. They seized his boat, and to ensure its thorough disinfection had it sunk in the harbour. It was not till ten days later, and in the month of October, that another case occurred. The victim this time was a native of Calais. He lived in a cellar in the Rue des Pèlerins, one of the worst and most miserable streets of the old town, situated near the moat of the citadel and not far from one of the principal sewer outfalls. This man was a rag picker, but he had nothing to do with imported rags. He merely went about picking up any rags he could find in the streets of Calais. He was taken with his wife to the hospital, and the next day the authorities, being duly impressed by the dirty, overcrowded and insalubrious nature of the house in which this man had lived, ordered its immediate evacuation. The French law is peculiar and perplexing. In such cases it gives the mayor the power to do everything, but does not stipulate that he shall do anything. The matter practically is left to the discretion of the mayors, and as a result they very generally refrain from touching the property or interfering with the liberty of their electors. But under the stress of a cholera scare they will sometimes take very extreme measures, though to prevent, for instance, a small pox epidemic they would hesitate to take any precautions whatever. In the present instance the mayor of Calais not only ordered the twenty-four tenants living in the infected house to at once leave the premises, but he requisitioned a house wherein to lodge them all. At first the owner of this house consented, but afterwards he refused. The authorities, however, did not care whether the owner of the house consented or did not consent. Availing themselves of the absolute powers conferred on the mayor in such circumstances they requisitioned the house—that is to say, they took forcible possession of the premises. Of course the owner will be compensated and will probably receive whatever sum he may choose to ask. It does not matter much if for the few weeks the house was utilised an exaggerated rent be paid. What is really important in this matter is the fact that the mayor was able, without the loss of an hour, to do what was necessary. Here was a cholera den occupied by twenty-four tenants. Legal difficulties did not occasion any loss of time, the nearest and most convenient empty house was requisitioned, the tenants were put in that house and were kept there for fifteen days, whilst the infected house was undergoing thorough disinfection—whitewashing, repairs &c. But just at the moment that the removal of the tenants was taking place the son of the rag picker fell ill, so he was sent to the hospital and the entire family was also sent to a special ward of the hospital where they were kept under observation.

Thus only the other tenants went to the requisitioned house. In the same evening the rag picker's daughter in law and her child were in their turn seized with cholera, whilst they were under observation at the hospital which they had entered but a few hours previously. The rag picker, his wife and his son, died from cholera, his daughter in law and grandchild alone recovered. Thus there were five cases in the one family resulting in three deaths.

This happened at the extreme north west of Calais, the next case occurred some two or three miles away to the extreme south west of the town, and the victim was also a rag picker. These persons were all extremely poor, loungers about the port, picking up a precarious existence in a variety of ways, and notably by selling whatever old rags they could find. The second rag picker also died. The next two cases occurred on board fishing boats anchored in the port. It will be noted that in the small inner port called the *Bassin de Paradis*, or the Paradise Dock, there are three deaths marked. In my previous articles on the sanitary condition of Calais I insisted at length on the abominable condition of this little dock, or rather it should be called an inner tidal port. I described the bad old sewer that fell into the Paradise Dock. The accompanying map gives the course followed by this old sewer. As there is but a slight current from this dock to the outer port, and thence to the sea, all the slime floating particles, dirt &c. brought down by the sewer are deposited at the bottom and not carried away to sea. When the tide runs out the filth is laid bare and an abominable stench results. Further, I related that the town authorities wanted to dredge up all this filth and carry it out to sea, but the fishermen strongly objected. They maintained that the sewer deposits made a soft bed for their boats to rest upon when the tide was out and the dock dry. It was urged that, though soft, the mud was composed of dangerous filth. The fishermen, however, altogether failed to appreciate this objection, they valued their boats more than their health and would not hear of any measures that would tend to harden the bottom of the port on which their boats rested when the tide was low. Even now that three deaths from cholera have occurred among the crews who were taken ill while on board these boats, nothing has been done to clear away the mud deposited by the sewer in the Paradise Dock. In my previous accounts of Calais I also described the Courgain district, the fishermen's quarter which lies just between this dock and the lighthouse. The little houses in the narrow streets of this district have no closets, and in the centre there is a sort of kiosk where the inhabitants empty their pails every morning, whilst the slop water drains away by the gutters to the new sewer that runs through the centre of this district. Though the inhabitants keep their houses clean, still this is an overcrowded and unwholesome quarter, and, according to M. Cuisinier, was the quarter that suffered most from the cholera, though I only know of two deaths having occurred here. It was in the Courgain district that a slight riot took place. Some patients were forcibly removed to the hospital; and, as they had money enough to pay for medical attendance and to nurse themselves in their own homes, the neighbours considered that they were treated with unnecessary harshness. A crowd gathered, angry cries were raised; but when the patients returned a few days later from the hospital this angry feeling subsided. The patients explained that they had been placed in a new, well aired wing of the hospital, that they had been well nursed by Sisters of Mercy, who had been sent from Paris because they were experienced in the treatment of cholera, and that they had good medical attendance. Also it was found that rich and poor were treated alike and thus the unfavourable impression is dying out.

Though there were more cases in the old town, near the Bassin du Paradis and the Citadelle Mont, still cholera broke out in all the four quarters of the town. The first death took place at the end of September, then there were four deaths in October, eight in November and eleven in January. At the same time it is curious to note, the general death rate in the town during these four months has been considerably below the average. The dots on the accompanying maps show where most of the patients who died from cholera had lived. The two dots at the hospital represent the Sister of Mercy and the male nurse, who both died in the fulfilment of their duty. The map also gives the course followed by the old and the new sewers. The small white dots represent the old sewers and the broad white lines the new sewers. It will be seen that nearly all these sewers have their outfalls into canals. Of

every case where an oath is required by law and for every purpose, the Scotch form must be administered if the person 'desires' to be so sworn." The mere expression of the desire is sufficient, and any inquiry into the person's reasons for desiring it is illegal. The concluding words of the section are 'and the oath shall be administered to him in such form and manner without further question.' The remainder of the article is devoted to clearing up the doubtful point as to whether the Scotch oath could be administered by those authorised to administer an oath in England. After quoting from Section 1 of the Commissioners for Oaths Act, 1889, and reading it with the Oaths Act of 1883, the writer observes: "Can it be reasonably doubted that the power conferred by the two sections of the Commissioners for Oaths Act 1889, which we have quoted, 'to administer any oath,' was intended to include the Scotch form of oath which had been previously prescribed? We do not think it can." The article concludes by reiterating that if any witness, jurymen or deponent attends in any English court, or on any inquiry or inquest, or before an examiner, arbitrator, referee or umpire, or commissioner for oaths, or any one having power to administer oaths, and such person expresses the wish to be sworn in the Scotch form described above, he has a legal statutory right to be so sworn without any question being asked him for all purposes for which an oath is or may be lawfully required. The same rule, moreover, must be applied to promises or oaths of all kinds. Whether all those who preside in our law courts will agree as to the form in which the Scotch oath is to be administered remains to be seen. But it is unlikely that any difficulty will be placed in the way of witnesses wishing to be so sworn, or that any questions will be asked now that their illegality has been shown in legal as well as in medical papers. Medical witnesses are modest and respectful in their bearing towards legal officials, may they always continue so. But they are entitled to every reasonable courtesy and consideration from the latter, and it is to be hoped that we shall not hear of any more questions being asked of anyone wishing to be sworn with uplifted hand.

THE ACTION OF LIGHT ON BACTERIA.

In *Nature* there has been published a report of Professor Marshall Ward's experiments on the action of light on the bacillus anthracis, in which corroboration of some of the more important points as to the action of light on micro-organisms is brought forward.

Professor Marshall Ward's experiments appear to have been carried out with considerable care and with a certain number of control experiments. His method of procedure was to incubate gelatine or agar agar with spores of bacillus anthracis to pour the fluid medium into Petri's dishes and allow it to set to form a plate, then to fix a stencil plate on the under surface of the dish and cover the whole (with the exception of the letter in the stencil plate) with black paper, he then exposed the plate either directly or by means of a reflecting mirror to the action of December sunlight so that the light could only act on the gelatine or agar agar exposed through the stencil letter. Two of his plates, kept for eighteen hours in a drawer and then exposed for five hours, had colonies developed all over the surface, except on that part which had been exposed to the light through the letter where the medium remained perfectly clear, giving sharply marked letters in both cases. In this case, Professor Marshall Ward thinks, the spores were acted upon just at the time they were germinating and therefore during their most tender period, so that they were killed off very perfectly and rapidly. In other cases the line of demarcation was not so distinctly seen, the margins of the letter and the spores there sown receiving reflected rays from the glass cover of the plate. The general result of his experiments was that the actinic rays of light, quite apart from the heat rays, act as germicidal agents.

Professor Marshall Ward's method of demonstrating the result obtained indirectly by Engelmann and directly by other observers is an exceedingly telling one. Even though but few of the Fellows of the Royal Society were able to appreciate the importance of the demonstration most of them must have been struck by the ingenuity with which it was devised. Professor Marshall Ward's general results agree with those obtained by Downes and Blunt and by

Tyndall, the latter of whom, although he failed to prove that germs were destroyed by sunlight, was nevertheless able to show that their vitality was very markedly interfered with. In France, where this question has had considerable attention paid to it by Arloing, Nocard, Duclaux, Straus, Roux and others, it has been proved most conclusively that light has a direct germicidal action, not only in the case of the anthrax bacillus, but also in that of various other species of micrococci and bacilli, and some years ago it was pointed out that light might be made to play a very important part in the attenuation of the virulence of anthrax vaccine. It has, however, been insisted on by some observers that the action of light is not altogether a direct one, but that light acts indirectly by altering the medium in which the organism is growing and quite recently Duclaux has again returned to the attacks on these lines, he holding that under the action of light there are developed in almost all the nutrient media with which we are in the habit of working, certain substances which, even when present in very small quantities, exert a very powerful germicidal influence.

The recent observations made by Koch on the action of direct sunlight in killing the tubercle bacillus, even in the space of a few minutes and regularly in two or three hours, Roux and Yersin's experiments on the action of light on the diphtheria bacillus, Buchner's, Janowski's and Geisler's experiments on the typhoid fever bacillus are all of very great interest, the two latter observers finding that the parts of the solar spectrum and the spectrum of diffused sunlight were far more active in preventing the growth of organisms and determining their death at the violet than at the red end, whilst Geisler has found that similar results might be obtained even when the electric light is used, especially with the violet rays of its spectrum. Of course the more delicate experiments were done, as Tyndall's earlier experiments were, by noting the restraining action of light on the development of the various microbes used rather than by determining the actual death of the organism. Another very important point recently demonstrated, but one often hinted at and even noted before, is that observed by Momont, who found that dry anthrax spores might be exposed with impunity to the action of light for a very considerable time, whilst moist spores exposed to sunlight for forty eight hours in the presence of oxygen were so devalued that they could not grow at all. Bacilli without spores under similar conditions were deprived of their vegetative activity by exposure to sunlight in from one to two hours or even less, but in the absence of oxygen very long exposure—forty to fifty hours—was not sufficient to prevent them germinating when introduced into a suitable medium.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Health of the County of Worcester 1891—The report of Mr Fosbroke, the county medical officer of health, has just reached us. It takes the form of a digest of the district reports, together with an introduction by the county medical officer. Mr Fosbroke again points out the great desirability of all sanitary authorities putting into print the reports of their medical officers. It appears that out of the forty two reports received by the County Council, thirteen were unprinted, a fact which does much to prevent their due appreciation by the public. Before dealing with the vital statistics Mr Fosbroke, very properly, warns his readers to be cautious in the deductions they draw from them, and he enumerates several statistical fallacies by way of illustration. It is much to be regretted that the value of these statistics is somewhat impaired partly by the reason of omissions in some district reports and partly owing to the fact that the census details as regards the rural districts, were not available at the time of making the report. In the urban district of the county the death rate amounted to 18.5 per 1000 but that for the rural districts is not given. The zymotic death rate varied from 0.3 to 2.3 in the urban and from 3.0 to 3.7 in the rural districts. The highest infantile mortality amongst the urban districts was that of Bewdley, where it reached the high figure of 266 per 1000 births while amongst the rural districts Worcester heads the list with

course the water is occasionally drained out of the canals, but only occasionally. The canals are below the high tide level, the water can only be drained out of them at low tide, and the water from the canals can leak into the subsoil of the towns. These canals communicate with the Belgian canals, and a large number of the cases of cholera which have occurred in Belgium have occurred on board barges and on the banks of canals. But, without going so far as Belgium, the canals are sufficiently contaminated in Calais itself. There are two sewer outfalls just by the hospital, one a little further off towards the outskirts of the town, another where the Marek canal joins the Calais canal, and three sewer outfalls in the canal or moat that goes round the citadel. Numerous locks shut up all this sewage and keep it stagnant for many hours, so that it is deposited at the bottom of the canals, engenders foul gases, and permanently poisons the water. The sewers receive all the slop and rain water of the town. The streets that have no sewers drain into the gutters and these gutters flow to the streets where there are sewers. Undoubtedly there should be a main sewer constructed into which all the other sewers should have their outfalls. It would then be necessary to build a pumping station by which the whole of the sewage could be sent out of the town to a safe distance. When this is done there could be no objection to abolishing the abominable cesspools and draining everything direct into the sewers. There would then be no further befouling of the waters of the canals and of the port.

The outline of the old historical town of Calais and the new manufacturing district of St. Pierre-les Calais—formerly different communes but now amalgamated into one township—is easily discerned in the accompanying map. The old walls have almost entirely been removed, but the neutral military zone outside these walls, where it was forbidden to build, not to interfere with the range of the guns, still remains and constitutes a broad open space round the old town of Calais which is thus separated from St. Pierre. On this neutral military zone have been built the new docks, the navigation canal, the new town railway station and the new railway line to the port and Maritime Station. At this latter station the Dover boats land their passengers on an open spot swept by the sea winds and separated by the broad port and uninhabited dock buildings from the old town. The railway line, as if fearing some contamination, curves round at as great a distance as possible from the old town and near to the as yet unbuilt districts of the new town. By travelling round the neutral zone, well away from habitations, the town station is reached, and thence the lines branch off to Paris, Belgium or Germany. Thus persons who land from the Dover boat and take the train at the Maritime Station can scarcely be said to enter the town of Calais, they pass through the parks and gardens of Calais and not through any of its streets. Consequently travellers to the Continent need not entertain any apprehension in taking the train at Calais, even should the few cases of cholera which have occurred prove to be only the precursors of a serious epidemic. The railway line and the Maritime Station are too far removed from any likely epidemic centre. There would nevertheless be a danger if the inhabitants of Calais drank well water but the town has an excellent supply of pure water from Guisne known historically as the Field of the Cloth of Gold. This water, brought to Calais in iron pipes is not likely to be contaminated. For further surety, when it was known that there were some cases of cholera at Calais, the crews of the Dover and Calais passenger steamers were forbidden to land at Calais. Under these circumstances the presence of cholera at Calais should not interfere with the traffic of passengers from Dover, through Calais, to other parts of the Continent, but there is no accounting for what panic will do, and in other respects the existence of cholera in Calais must be very injurious to the interests of that port. Consequently it is gratifying to hear that there have been no further cases during the month of January, but the small epidemic which has taken place should serve as a warning.

So far, however, no effort has been made to profit by the existence of cholera at Calais, to urge the claim for further and greater sanitary improvements, yet the subsoil of Calais seems specially subject to contamination. Apart from the system of drainage which allows the slops to travel long distances in gutters before they reach the sewers, and apart from the fact that cesspools must leak more or less, we must take into consideration that the subsoil has been drained during sixteen years by the pumping operations necessary to

carry out the harbour works. In consequence of this pumping, whilst the docks were being built wells in the St. Pierre district were completely dried up. Of late years this district has greatly increased, many new houses have been built, and for these good dry foundations were found. Now, however, the harbour works are finished. After sixteen years the pumping operations have suddenly ceased, with this result that the wells which were dried up are full of water again, and the cellars of new houses, built on perfectly dry soil, are flooded. Not only has the subsoil water returned to the St. Pierre district, but it cannot drain away with the same facility as in former days, because there are the new dock walls that check the natural flow. Some districts are consequently water logged. It has been necessary to pump out cellars and cement their walls, and thus there are houses literally standing in water. Now, if it be considered that above the level of this underground watershed there are numerous sewer contaminated canals, all leaking, it will readily be seen that specific germs could be carried a great distance under inhabited houses. It therefore becomes more and more imperative to prevent the draining of sewers into these canals. It is absolutely wrong to have sewer outfalls into canals of stagnant water. The present cholera scare is an excellent opportunity for demanding a proper and complete system of drainage for Calais. Not only is this absolutely necessary for the security of the inhabitants of the town, but wider interests are at stake, for passenger traffic between England and France through Calais is ever increasing. It amounted to 247,850 persons in 1888, rose to 345,934 during the Universal Exhibition of 1889, and in 1891, a normal year, there were 265,283 passengers who crossed the Channel between Calais and Dover. Such a traffic as this imposes a certain moral responsibility.

SWEARING ENGLISH WITNESSES IN SCOTCH FORM

UNDER this heading there appears in the *Solicitors' Journal* of the 11th inst. a very able article by Mr F A Stringer, author of a work on oaths and affirmations, in which all the difficulties created by the fifth section of the Oaths Act, 1888, are exhaustively dealt with. Mr Stringer is an authority on this subject, and a few extracts from his article will supply the answer to the doubtful point which was left open in the annotation on page 310 of THE LANCET of last week, while confirming those points on which there was no doubt expressed. Allusion is made at the commencement of the article to the friction which is occurring in consequence of the uncertainty which prevails as to the precise meaning and effect of Section 5 of the Oaths Act, 1888. "The demand of witnesses, especially medical witnesses, to be sworn in the Scotch form, as permitted by the section referred to, is becoming general all over the country, and we regret to say the officials in local courts, and magistrates, justices and coroners are quite unequal to the occasion." After referring to the apparent ignorance of the enactment by some officials and the confusion, in the minds of those who know of it, between the Scotch oath and an affirmation the article proceeds. We could mention several other instances which show that great ignorance and confusion of mind exist on this subject. A very strong attitude has been taken up by THE LANCET and the *British Medical Journal*, and, as a natural consequence, doctors everywhere refuse to be sworn by kissing the book, and demand, as they have a perfect right to do, that they shall be sworn in Scotch form. After showing how the difficulties had arisen from the wording of the fifth section, which is fully quoted, and after dealing exhaustively with the Scotch oath and its form and manner of administration, the article proceeds. "Certainly we may say as a matter of opinion if swearing is to be retained in our legal proceedings, the Scotch form of oath appears to us to have more solemnity and dignity about it than our method of kissing a generally greasy looking ancient Testament, which, as a matter of choice, we should have avoided handling." The article next deals with the application of the Scotch form of oath to the requirements of English proceedings, and the absolute right of any person to be sworn in that form is thus upheld. After quoting the words of the section the writer proceeds. "These words can only be construed as meaning that in

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had declined in the preceding four weeks from 28.5 to 21.9 per 1000, rose again to 24.2 during the week ending Feb 11th, and exceeded by 4.3 per 1000 the mean rate during the same period in thirty-three of the largest English towns. The rates in the eight Scotch towns ranged from 16.6 in Greenock and 16.8 in Leith to 26.6 in Glasgow and 29.8 in Dundee. The 682 deaths in these towns included 51 which were referred to measles, 13 to scarlet fever, 13 to whooping cough, 12 to diarrhoea, 9 to diphtheria, 6 to "fever," and 5 to small pox. In all, 109 deaths resulted from these principal zymotic diseases, against 113 and 93 in the preceding two weeks. These 109 deaths were equal to an annual rate of 3.9 per 1000, which exceeded by 2.1 the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of measles, which had been 68 and 41 in the preceding two weeks, rose again to 51 last week, of which 19 occurred in Glasgow, 16 in Dundee and 10 in Edinburgh. The deaths referred to scarlet fever, which had been 12, 9 and 10 in the previous three weeks, further rose to 13 last week and included 10 in Glasgow and 2 in Edinburgh. The 13 fatal cases of whooping cough were within one of the number in the preceding week and included 12 in Glasgow. The deaths from diphtheria, which had increased from 3 to 11 in the preceding three weeks, declined to 9 last week, of which 7 occurred in Glasgow. Of the 6 fatal cases of "fever," 3 were recorded in Leith, and the 5 deaths from small pox included 4 in Glasgow and 1 in Perth. The deaths referred to diseases of the respiratory organs in these towns, which had been 168 and 159 in the preceding two weeks, rose again to 182 last week and exceeded by 36 the number in the corresponding week of last year. The causes of 52, or nearly 8 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN

The death rate in Dublin, which had declined from 34.6 to 25.1 per 1000 in the preceding four weeks, further fell to 24.3 during the week ending Feb 11th. During the first six weeks of the current quarter the death rate in the city averaged 29.2 per 1000, against 24.6 in London and 24.9 in Edinburgh. The 163 deaths in Dublin during the week under notice showed a decline of 5 from the number in the preceding week, and included 4 which were referred to "fever," 1 to measles, 1 to scarlet fever, 1 to diarrhoea, and not one either to small pox, diphtheria or whooping cough. In all, 7 deaths resulted from these principal zymotic diseases, equal to an annual rate of 1.0 per 1000, the zymotic death rate during the same period being 1.9 in London and 2.9 in Edinburgh. The deaths referred to different forms of "fever," which had been 11, 6 and 8 in the preceding three weeks, declined to 4 last week, a lower number than in any week since the end of last year. The fatal case of diphtheria was the first recorded in the city since the middle of December last. The 163 deaths registered in Dublin last week included 35 of infants under one year of age and 38 of persons aged upwards of sixty years, the deaths of infants considerably exceeded those recorded in any recent week, whilst those of elderly persons showed a further decline. Three inquest cases and 5 deaths from violence were registered, and 66, or more than a third, of the deaths occurred in public institutions. The causes of 16 or nearly 10 per cent., of the deaths in the city last week were not certified.

THE SERVICES

MOVEMENTS IN THE MEDICAL STAFF

BRIGADE SURGEON LIEUTENANT COLONEL MACARTNEY has arrived at Malta from Gibraltar to complete a tour of foreign service. Brigade Surgeon Lieutenant-Colonel Greenhill has arrived home from India to retire. The following officers have arrived from India in the *Euphrates*—Surgeon Captains Brown, Manders and Durant. Surgeon Captain Nells has embarked in the above troopship for a tour of service in India. Surgeon Captain Lane has been posted to the North British district. Surgeon Captain Morris has returned to Netley from Ceylon where he proceeded in charge of duties.

ARMY MEDICAL STAFF

Surgeon Lieutenant-Colonel Henry Waghorn, from half-pay, is placed on retired pay, Surgeon Lieutenant-Colonel William Finlay retires on retired pay. The undermentioned Surgeons on probation to be Surgeon Lieutenants—Frederick Meredith Mangan, Charles Edward Pollock, William James Taylor, M.B., Bell Wilmott Longhurst, John Herbert Rivers, Henry Arthur Berryman, Ferber Richard Buswell, Frank Albert Symons, M.B., John Henry Farmer and Charles Thomas Samman.

INDIA AND THE INDIAN MEDICAL SERVICE.

The following appointments have been made—7th Bengal Cavalry Surgeon Captain A. G. Hendley, to the Officiating Medical Charge of the Regiment, vice Surgeon Captain J. M. Crawford. 13th Bengal Lancers Surgeon Captain C. H. Bedford to the Officiating Medical Charge of the Regiment, vice Surgeon Major W. Conry. Surgeon Captain A. H. Nott, Officiating Civil Surgeon, Birbhum, to act as Civil Surgeon of Hazaribagh. Brigade Surgeon Lieutenant-Colonel D. F. Bateman, I.M.S., Principal Medical Storekeeper, Madras, to officiate, with the temporary rank of Surgeon Colonel, as Principal Medical Officer of a District in the Madras Command, during the absence of Surgeon Colonel W. H. Roberts, on leave. Surgeon Major T. B. Moffit to have Medical Charge of the Barrackpore Subdivision, in addition to his own military duties, vice Surgeon Captain G. B. French. Surgeon Major R. Pemberton is appointed to act as Civil Surgeon, Cochin, during the employment of Surgeon Major J. W. Evans on other duty. Surgeon Colonel F. B. Scott, M.D., C.M.G., Medical Staff, is brought on the Administrative Medical Staff of the Army, vice Surgeon Colonel A. Allan, deceased. Surgeon Captain L. F. Childe and Surgeon Captain T. D. C. Barry have respectively delivered over and received Charge of the office of Professor of Chemistry at the Elphinstone College, Bombay. Leave has been granted to Surgeon Lieutenant-Colonel F. C. Nicholson, M.B., Civil Surgeon, Patna (p.a.) for 1 year and 324 days, and to Surgeon Lieutenant-Colonel W. A. Gilligan, I.M.S. (m.c.), for six months.

NAVAL MEDICAL SERVICE.

The following appointments are announced—Fleet Surgeons Henry T. Cox to the *Royal Arthur* (dated March 2nd, 1893), Alfred T. Corrie to the *Excellent* (dated Feb 19th, 1893). Staff Surgeons James W. T. S. Kellard to the *Malabar* and Leonard K. Kellett to the *Invincible* (both dated Feb 19th, 1893). Surgeons Geo. H. H. Symonds and Robley H. J. Browne to the *Royal Arthur*, James L. Smith to the *Jachal* and Thomas E. Honey to the *Warpite* (both dated March 2nd, 1893), Edward R. D. Fasken to the *Wye* and Alexander G. Andrews to the *Duke of Wellington* (both dated Feb 11th, 1893). Surgeon and Agent Cecil A. P. Osburne, at Hythe (dated Feb 11th, 1893).

VOLUNTEER CORPS.

Rifle 5th Volunteer Battalion the Royal Scots (Lothian Regiment) Surgeon Lieutenant W. Young, M.B. to be Surgeon Captain—2nd (the Weald of Kent) Volunteer Battalion, the Buffs (East Kent Regiment) Surgeon Lieutenant A. S. Wood resigns his commission, also is permitted to retain his rank, and to continue to wear the uniform of the Battalion on his retirement.—7th (Clackmannan and Kinross) Volunteer Battalion, Princess Louise's (Argyll and Sutherland Highlanders) Surgeon Lieutenant T. Milne, M.D., to be Surgeon Captain.

DEPUTY SURGEON GENERAL E. W. YOUNG M.D.

Deputy Surgeon General Young, late King's Royal Rifle Corps who died on Feb 1st at Southsea served throughout the Eastern Campaign of 1854-55, including the battles of Alma, Balaklava and Inkerman the siege and fall of Sebastopol, and the expedition to Kertch, receiving the medal with four clasps and Turkish medal. He also served in the Indian Campaign of 1858-59, and with the 1st Battalion 60th Rifles on the Red River Expedition of 1870.

HONORARY SURGEONS TO THE QUEEN

We have to congratulate Inspector General of Hospitals and Fleets James John Louis Donnet, M.D., who has been appointed. Honorary Physician to Her Majesty in the vacancy created by the decease of Inspector General David Lloyd Morgan, and Inspector General James Nicholas Dick, C.B., Director-General of the Medical Department of the Navy, who has been appointed Honorary Surgeon to Her Majesty in the vacancy created by the appointment of Inspector General

a rate of 235. There were at the end of 1891 two sanitary districts in the county—those of Stourbridge (urban) and Tewkesbury (rural)—which had so far declined to adopt the Notification Act, but we hope that by this time they have been added to the list, and that the county has in this respect been made complete. During the year five of the authorities have provided isolation accommodation, but there are still twenty-two districts without any proper provision for patients of all classes. As regards sanitary administration in the county, Mr Fosbrooke tells us that the Housing of the Working Classes Act, 1890, has not been put into proper operation and that only one "closing order" has been received. We hope to hear in the next report that the county council has made use of the powers conferred upon it by Section 45 of the Act. Eighteen localities are enumerated in the report as possessing defective sewerage, as also are some sixteen with bad water supplies. County sanitary by-laws are said to be under consideration. The report is one which cannot fail to be of value to all those in the county who are interested in public health.

Padsey Urban District for 1892.—The estimated population of this district in the middle of 1892 was 13,590, the death rate for the year (which is stated to be the lowest on record) was 16.63 per 1000, and the zymotic death rate 1.03. The infantile death rate was 153 per 1000 births. The question of a proper system of sewers for the district is now receiving attention, and Dr Hunter is pressing upon the urban sanitary authority the desirability of providing at the same time proper subsoil drainage. Dr Hunter advocates the more frequent cleansing of the privy middens, which seem to prevail widely in the district, and this is a point which should no doubt—in view of the cholera prospects—receive immediate attention. Owing to the prevalence of tubercle amongst the cattle of the district, particular attention was paid to the cowsheds, the sanitary condition of which appears to be far from what it should be. The importance of a speedy improvement in this direction is still further accentuated by the fact that a large quantity of Padsey milk is sold in Bradford and Leeds. The water supply of the district possesses, Dr Hunter reports, two serious defects—its cost and the fact that it takes up lead from the service pipes, it appears that several of the many samples of water analysed yielded as much as 0.7 grain of lead per gallon. The report concludes with some excellent recommendations to the urban sanitary authority, and we hope they will be adopted.

Leeds Urban District for 1891.—Dr Spottiswoode Cameron issues for the year 1891 a very full and interesting and exhaustive report, and we regret our space will hardly permit of our noticing it as fully as it deserves. The death rate for the year was 22.91 per 1000, which shows an increase of 0.20 on that of 1890 and of 1.75 on the rate for the quinquennium 1885-9. This excess is no doubt due in large part to influenza and its sequelae. Compared with the general death rate of the twenty-eight large towns Leeds shows an excess of 0.36, but when, as Dr Cameron points out, the comparison is made with other towns of the United Kingdom which have a population of over 250,000, Leeds is found to stand fourth on the list, the healthier towns in order of merit being London, Edinburgh and Birmingham. The death rates of the different municipal wards of the borough varied from 16.9 in Headingley to 32.4 in East Ward. The zymotic death rate was 2.41, which was practically the same as in 1890 and 0.37 below that of the quinquennium 1885-9. The infantile death rate was 177 per 1000 births as compared with 175 during the previous year. A large part of the report is devoted to a detailed consideration of special and zymotic diseases and exhaustive tables are given showing the age and sex incidence of each disease, together with the sanitary condition of the houses attacked. Dr Cameron gives a full account of the limited outbreak of small pox which occurred in the borough during the autumn of 1891 and he refers to the way in which the difficulties of tracing the cases are enormously increased by the absence of compulsory notification. It is interesting to note that of 123 persons sent for observation to the sanatorium nine developed small pox. Dr Cameron, at the conclusion of his elaborate report, which to be appreciated must be read, expresses a hope that his committee will before long avail themselves of the increased facilities offered by recent legislation for dealing with infectious diseases—a hope which Leeds will surely endorse.

Stapleton Urban District.—During the year 1892 the death rate in this district was 17.5 per 1000 and the zymotic rate 1.209. The infantile mortality was 140.4 per 1000 births as

compared with 161.6 for 1891. Dr Brown tells us that in connexion with some cases of diphtheria he found the most serious insanitary conditions, and he further draws attention to the indifferent character of the water supply of the district. It appears that all the samples of water submitted to him for analysis fell far short of the required standard of purity, a fact not altogether surprising when we learn that the water is derived from shallow wells. Dr Brown complains of the condition of the cowsheds, where there seems to be considerable overcrowding and defective drainage. We are glad to hear the sewers have been extended, but wish the report held out prospects of a proper water supply.

Actterton Urban District.—The population of this district has increased considerably during the last two years, and is now estimated at 21,000. The general death rate for 1892 was 16.1 per 1000, and the zymotic death rate only 0.6, while the infantile mortality, which, as Mr Dryland observes, is much too high, amounted to 154 per 1000 births. The number of deaths from phthisis has been gradually diminishing for some years, and this is attributed in great measure to the improved condition of the factories. We notice with regret the existence of twenty-five cases of typhoid fever during the year. The report states that the Notification Act "has worked exceedingly well and without the least friction", and it is gratifying to hear that the infectious diseases hospital is proving a success. A plentiful and good supply of water has been obtained, and steps are about to be taken to purify the sewage effluent. A record of work done by the inspector of nuisances is annexed to the report, and shows evidence of zeal and energy.

VITAL STATISTICS

HEALTH OF ENGLISH TOWNS

IN thirty-three of the largest English towns 6819 births and 3934 deaths were registered during the week ending Feb. 11th. The annual rate of mortality in these towns, which had declined in the preceding five weeks from 29.2 to 20.2 per 1000, further fell last week to 19.9. In London the rate was 19.1 per 1000, while it averaged 20.4 in the thirty-two provincial towns. The lowest rates in these towns were 14.9 in Wolverhampton, 15.4 in Cardiff, 15.5 in Huddersfield and 16.1 in Nottingham, the highest rates were 22.3 in Blackburn, 22.8 in Liverpool, 23.7 in Preston, 24.1 in Manchester and 25.9 in Bradford. The 3934 deaths included 361 which were referred to the principal zymotic diseases, against 396 and 351 in the preceding weeks, of these, 91 resulted from whooping cough, 80 from diphtheria, 73 from measles, 43 from diarrhoea, 41 from scarlet fever, 21 from "fever" (principally enteric) and 12 from small pox. No fatal case of any of these diseases occurred last week in Burnley, in the other towns they caused the lowest death rates in West Ham, Swansea, Wolverhampton and Sheffield, and the highest rates in Portsmouth, Salford, Plymouth, Derby and Bolton. The greatest mortality from measles occurred in Brighton, Portsmouth, Plymouth, Bolton, Hull and Newcastle upon Tyne, and from whooping cough in Derby, Salford and Gateshead. The mortality from scarlet fever and from "fever" showed no marked excess in any of the large towns. The 80 deaths from diphtheria included 62 in London, 3 in Manchester, 2 in Cardiff, and 2 in Birmingham. Three fatal cases of small pox were registered in Manchester, 2 in Salford, and 1 each in London, Liverpool, Leicester, Derby, Oldham, Halifax and Leeds, 106 cases of this disease were under treatment in the Metropolitan Asylum Hospitals and 22 in the Highgate Small pox Hospital on Saturday last. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2513, against 2774, 2688 and 2580 on the preceding three Saturdays, 257 new cases were admitted during the week against 250 and 255 in the previous two weeks. The deaths referred to diseases of the respiratory organs in London, which had declined from 984 to 452 in the preceding four weeks, further fell to 377 last week and were 93 below the corrected average. The causes of 90, or 2.3 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Croydon, Cardiff, Bolton, Oldham, Blackburn and in eight other smaller towns, the largest proportions of uncertified deaths were registered in West Ham, Brighton, Birmingham, Halifax and Hull.

"SENSITIVENESS OF THE PERITONEUM"

To the Editors of THE LANCET

SIRS.—As no circular letter has reached me from Mr Lawson Tait's secretary on the subject of the "Sensitiveness of the Peritoneum," I may infer that as far as Birmingham is concerned I am not one of those "whose names are familiar in connexion with abdominal work." Nevertheless I have had the experience of a considerable number of years, extending to hundreds of cases of ordinary abdominal section, and probably a unique experience amongst "the surgeons of Great Britain and Ireland" in vaginal hysterectomy, and I shall feel obliged to you for the opportunity of expressing my opinion on the subject under discussion. I should like also to call attention to one point in particular that has arisen incidentally in the debate on this subject and in vivisection. Many years ago in one of my first cases of oöphorectomy, which I reported at the time in a paper read at the Manchester Medical Society protrusion of the intestine occurred owing to the snapping of bad material employed in suturing the abdominal wound. My attention was called to the case a day or two before I would otherwise have interfered with the dressings owing to the fact that these were observed by the nurse to be stained with red serum. I undid the dressings and, to my horror, found a large knuckle of intestine protruding and adhering to the lint, and it required a good deal of swabbing and picking and other manipulations to clear the bowel from the dressings. To my surprise the patient hardly winced, and it was only after putting the bowel back with a soft sponge and proceeding to introduce silk sutures through the abdominal skin that she made any outcry. The patient recovered without any further incident. More recently, owing to an omission on the part of a nurse, I have had to deal with a case of obtrusion of intestines, and I dealt with the "accident" in the same way, without waiting for the administration of an anæsthetic.

It seems to me to be the external wound that is painful. This is not a mere impression, but is an opinion formed by observation in dealing with the wound in cases in which a drainage-tube had been prematurely removed or in which a drainage-tube had not been introduced at the time of operation. This opinion is supported by my experience of vaginal hysterectomy. In my first thirty to forty cases I did not suture the chasm left in the floor of the pelvis by the removal of the uterus. The intestines were sometimes pushed very low in the pelvis by the straining permitted by imperfect administration of the anæsthetic, and sometimes the bowel and omentum were dragged down in removing the sponges. In the first dressing of these early cases the bowel had to be supported on a pad of iodoform gauze, and every successive dressing entailed more or less interference with the peritoneum and intestine. In these cases the element of interference with a painful external wound was eliminated. After the introduction of the vaginal specula and the full exposure of the wound in the pelvis—a proceeding which was always painful the first few times—the manipulation of the pelvic contents could be carried out with little or no complaint from the patient. With suitable forceps the intestine and omentum could, when necessary, be swabbed with pledgets of cotton wool and even pushed further up whilst the patient appeared to be unconscious of the proceedings. If, however, the ligatures on the broad ligament were pulled upon, there was immediately some expression of suffering.

There is a class of phenomenon in connexion with the introduction of the blandest of fluids or of the blood of the patient into the peritoneal cavity, which Mr Lawson Tait refers to, about which I have formed no theory and which I do not understand. In flushing the peritoneal cavity I use a solution of common salt, which is less irritating, and for other reasons more serviceable than boiled water, yet at the first or second dressing when a drainage tube is used the introduction of a small quantity of the solution (temperature 100° F) in order to keep effused blood in solution often gives rise to severe pain. It might be objected here that there is some carelessness about the temperature, but how then can we explain the cases in which the patient's own blood, gushing into the peritoneal cavity—as for example, when rupture occurs in tubal pregnancy, gives rise to intense pain? In one case, otherwise uncomplicated on which I operated the patient after her recovery described the onset very graphically. The pain was so sudden and so agonising all over the abdomen that she could not help the practitioner who first saw her in localising the

site of its origin, and, in fact, to some extent she misled him. If space will permit, will you now allow me to refer to a matter which I expected some one would have called attention to ere now in connexion either with the present or a recent controversy? In his paper in THE LANCET of Jan. 21st Mr Lawson Tait again gave expression to an eccentric opinion. "I think the facts as they are substantiated by many of my correspondents show that here as elsewhere it is perfectly impossible to accept the conclusions derived from experiments on animals as applicable to man." He also added "It is probable also that it is dangerous to accept the conclusions derived from one human patient as applicable to another of the same kind." If such a position were tenable there would be an end to all experimental research in biology, and even biological science would be impossible. Might a controversialist in a difficulty with the chemists not as well hunt at his want of confidence in the regular behaviour of the atomic weights of the elements? I think Mr Lawson Tait should give some reasonable explanation of the statements which he recently published in reference to his attitude in the vivisection question and some passages in his most recent bound book. He threw over the "women and clergymen" in alleging that he did not object to experimental research in biology on sentimental grounds, but because inferences could not be drawn from such work which could be of any value as applicable to man, and yet if anyone interested will turn to "Diseases of Women and Abdominal Surgery," vol. 1, he will find the chapter on the Theory of Menstruation curious reading in the light of recent statements by the author Mr Lawson Tait. He draws largely upon two papers contributed to the Transactions of the British Gynecological Society by Mr Bland Sutton and Dr Arthur W Johnstone of Kentucky, and he refers to them in terms of extravagant praise. They are both "brilliant researches" and Dr Johnstone's becomes "the most brilliant contribution to this subject which this century has seen" (p 326). But will it be believed by your readers who may be unfamiliar with this class of subject that the essay so characterised by Mr Lawson Tait depended for some of its "brilliant" qualities upon "the researches of Johnstone on the wombs of animals" (p 324)? As for Mr Bland Sutton's paper, read at the same meeting of the British Gynecological Society, in 1886, in which Dr Johnstone's was introduced, it bore the short and uncompromising title of "Menstruation in Monkeys." There may be some simple natural explanation of the praise of these two essays and the latest modification of opinion on the part of the professional champion of the anti-vivisectionists and, if so it will doubtless be forthcoming, but, *prima facie*, the inconsistency appears more suitable to the field of contemporary politics than to that of biological science.

I am, Sirs, yours truly,

Manchester Jan. 30th, 1893

W J SINCLAIR.

THYMOL AS AN ANTHELMINTIC IN FILARIASIS

To the Editors of THE LANCET

SIRS.—Surgeon Lieutenant-Colonel E Lawrie in THE LANCET of Nov 26th reiterates his belief, founded on the experience of two cases,¹ in the power of thymol to cure chyluria and to cause the disappearance of filaria sanguinis hominis nocturna from the blood, contrary to the experience of Surgeon Lieutenant-Colonel A. Crombie² in the case of the same parasite and my own in the case of the closely allied parasites, filaria sanguinis hominis diurna and perstans.³ He further states that Surgeon Captain P Hehr has also succeeded with the drug. Should further experience confirm his results Surgeon Lieutenant-Colonel Lawrie is to be congratulated on a therapeutical discovery of the first magnitude, as those who have studied the subject of filariasis will readily understand. Impressed with the importance of the matter I took an early opportunity of repeating Surgeon Lieutenant-Colonel Lawrie's experiment, this time in a case of filaria nocturna infection. Possibly, I thought, my failure in the case of filaria diurna and filaria perstans might have been owing to insusceptibility to the drug in these specifically different parasites. My experiment was made in the following case—

A man aged twenty one, born in India of English parents,

¹ THE LANCET Feb 14th, 1891.² Ibid. Aug 13th, 1892.³ Ibid., Oct. 1st, 1892.

James John Louis Donnet to be Honorary Physician to Her Majesty

THE TRANSPORT OF TROOPS

We are glad to notice that Mr Campbell Bannerman's attention has been called to the discomforts experienced by the Royal Scots Fusiliers during their short voyage on board H M's ship *Assistance*, to which we recently adverted. The War Minister frankly admitted that great discomfort was undoubtedly experienced, but it was in great part attributable to the exceptionally bad weather, the time occupied in the voyage, and the number of men who were prostrated by sea sickness. There was no overcrowding, according to the estimated accommodation, but he was bound to allow that complaints had been received in regard to this vessel on which he proposed to confer with the Admiralty. We can only repeat what we have already pointed out, that as young soldiers are very frequently bad sailors, and as the short voyages made by these coast transports are often exceptionally rough, it is extremely desirable, in the interest of the public service, that the accommodation and arrangements on board should be made as good as practicable.

EGYPT

Now that additions have been made to the army of occupation in Egypt, the total strength of the force in that country will amount to 6000 and upwards. We trust that arrangements will be made for accommodating as many of the men as practicable in suitable positions outside the large towns, and that ample space and ventilation will be afforded to all the troops in barracks during the ensuing hot weather. Our attention has been called to the fact that there are some excellent sites for encampments at a few miles' distance from Cairo, on which it is to be regretted that huts or buildings of a temporary character were not erected years ago. The occupation of some of the barracks at Abbasesh, where the troops could have ample space and ventilation, would probably be preferable to quartering them in some of the barracks in Cairo itself. We need scarcely add that every effort should also be made at Alexandria to diminish the amount of disease which unhappily prevails in the garrison there year after year. The Egyptian Government accounts for the past year continue to show a very satisfactory surplus, notwithstanding the large remissions of taxation that have taken place during the past three years. The general improvement in the Customs and Railway receipts and in the yield of the indirect taxes is evidence of the prosperity of the country. A large saving has been effected by the conversion of the debt, and large reserve funds have been created under our financial administration of the country, consequently there does not appear to be any reason why some outlay should not be incurred in prosecuting public sanitary works and in providing the European garrison with wholesome and healthy accommodation.

EXAMINATIONS FOR SANDHURST

On the last occasion of the medical and literary examinations for admission to the Royal Military College, Sandhurst, the number of candidates was very large. It is understood that, in future, changes will be made in the conduct of these examinations. Instead of London being the only place at which they are held, as has been the practice hitherto, the literary part of the examination will be held in the metropolis and at several other large towns also, and only those candidates who have been successful in this portion of the examination will be subjected to the physical or medical examination as to their fitness for Her Majesty's service. It is thought that in this way the candidates will be spared expense and inconvenience and that the medical officers will be relieved of much unnecessary labour.

THE RECRUITING FOR 1892.

According to an article in the *Standard*, *apropos* of the forthcoming Annual Report of the Inspector General of Recruiting, there would appear to be no doubt that all things considered, the recruiting for 1892 has been more satisfactory than for any year since 1885. It is stated that the number of recruits enlisted in 1892 exceeds 41,000. Of the total number not more than 2500 enlisted for twelve years' service. About one-third probably of the men, however, are "specially enlisted" because they do not come up to the prescribed standards of measurement. Many causes have contributed to this success, the chief of which is probably the greatly increased prospect of civil employment after leaving the colours. The infantry is the only arm of the British Army which is not above its establishment, and it is in this direction that the conditions of service require remedial

measures. The Secretary for War will shortly have to discuss the subject of the report of Lord Wintage's Committee, and we shall then learn which of the number of measures recommended in that report the present Government are inclined to adopt.

Correspondence.

"Audi alteram partem."

"THE PROOF THAT CHLOROFORM HAS NO DIRECT ACTION ON THE HEART"

To the Editors of THE LANCET

SIRS,—It seems to us desirable, after reading the first paragraph of Surgeon Lieutenant Colonel Lawrie's article in THE LANCET of Feb 11th, to briefly state the circumstances under which we carried out an investigation into the action of chloroform. In undertaking to write a report on the work of the Second Hyderabad Chloroform Commission we accepted the assistance of the Nizam's Government, and we distinctly understood that we were engaged in a purely scientific investigation and that the results of the investigation would be given to the medical world, whatever might be the conclusions at which we arrived. Our experiments were carried out, and we sent a draft report to Surgeon Lieutenant Colonel Lawrie in August, 1892, in perfect good faith, for the purpose of obtaining his and Surgeon Major Bomford's criticisms before publication. He acknowledged its receipt and promised to send us back the draft report "in a mail or two" with these criticisms, so that we might modify it as we thought fit. Up to the present we have not received it. A telegram, dated Hyderabad, Oct. 8th, however, appeared in *The Times*, asserting that Surgeon Lieutenant Colonel Lawrie had settled the controversy as to the action of chloroform by means of cross circulation experiments (a method devised by us), and we heard incidentally from Dr Lauder Brunton that a copy of our draft report had been received in London from India, but he was not at liberty to say to whom it had been sent or what was to be done with it. Shortly afterwards Surgeon Major Bomford came over to England and we had the opportunity of meeting him in December last. He had not brought our draft report back with him, but as he had read it, and we fortunately had kept a copy, we were enabled to discuss it with him and to modify it in a few particulars in accordance with information he gave us on some points in the Commission's report and on Surgeon Lieutenant Colonel Lawrie's method of chloroform administration.

Seeing, then, that a copy of our draft report had been sent to some unknown person in London instead of being returned to us as promised, and also that we had obtained from Surgeon Major Bomford all the criticism he had to offer, it seemed to us clear that we were not likely to receive any further criticism from Hyderabad, so we determined to wait no longer and accordingly published our report. We are therefore surprised to find Surgeon Lieutenant Colonel Lawrie quoting from our draft report without our permission. We distinctly understood from the commencement of the work that the publication of the report was in our hands, and Surgeon Lieutenant Colonel Lawrie in acknowledging the receipt of the draft report, said "We shall not attempt to take any advantage of you in the way of publication." We leave the medical world to judge how far Surgeon Lieutenant Colonel Lawrie has at heart the desire to know the truth about the action of chloroform when, if we judge from his behaviour to us with regard to publication, and from the final sentences of the first paragraph of his present communication, it appears that he has done his best to suppress an investigation, initiated by himself, because its conclusions are adverse to his preconceived views.

We are, Sirs, yours truly,

W H GASKELL,
LEWIS E SHORE.

Cambridge, Feb 14th 1893

* * We think it is but fair to Surgeon Lieutenant Colonel Lawrie to state that the copy of the draft report alluded to in Drs Gaskell and Shore's letter was sent by him to us in October last, and is still in our possession. We understood, however, that it was not sent to us for publication.—ED L.

be justified I am ready to overcome my repugnance to them at once.

I can have no sympathy with those who talk such nonsense as to say that men of science ought not to be placed under restrictive legislation. My answer is at once to print to the Anatomist Act and to say that honest anatomists do not object to it and that criminal anatomists brought it about. Dr Klein's evidence alone was enough to convince an reasonable man that restrictive legislation in the matter of dissection was urgently needed.

I am, Sirs, yours truly,

LAWSON TAIT.

Edinburgh, Feb 17th, 1893.

ARE DISEASE GERMS IN MILK DESTROYED BY BOILING?

To the Editors of THE LANCET.

SIRs,—In the early part of 1891 I wrote a letter to THE LANCET saying it was by no means certain that disease germs in milk were destroyed by ordinary boiling and quoted Mr. Watson Cheyne's opinion that, to make sure the milk required to be boiled for from ten to fifteen minutes on three successive days. Dr. Fayer, in the *L'Année Médicale* de Caen, now comes forward and states that he does not believe that the germs are destroyed by boiling. The tubercle bacillus is killed only at a temperature of 110° to 115° C. Experiment made at his laboratory at the Physiological Institute show that the degree of coagulation never exceeds 100° C. Children, he says, die from enteritis and boiled milk is to be feared. I must encourage his assertion. He considers it harmful to children. Another matter about which there is difference of opinion is whether tuberculous can be conveyed to human beings by means of milk from tuberculous cows. Owing to a report it would appear from the Veterinary Inspectors, the Public Control Committee of the London County Council have come to the conclusion that such milk may cause serious mischief to health but from laboratory experiments recently carried out an opinion has been given that it does not cause tuberculous. Surely such important matters as these should not be allowed to remain any longer in doubt.

I am, Sirs, yours truly

F. P. ATKINSON

Nottingham, Feb 14th, 1893.

THE ETHICS OF OPIUM.

To the Editors of THE LANCET.

SIRs,—Having read Dr. Moutat's article in last week's issue of THE LANCET, I see no reason for continuing the controversy. My single motive for personally writing at such length was to show how baseless was the charge which Dr. Moutat had brought against the Anti-opium Circular of December 1891, of being 'a most mendacious document.' I have, I believe, shown ample reason for the statements of the Circular, bringing forward a variety of facts in connexion with India with which Dr. Moutat himself was evidently unacquainted, and otherwise showing abundant cause why at least an expression which conveyed a direct insult to four of his professional brethren should be at once withdrawn. I had hoped that one who professes so great a regard for the correctness of discussion as Dr. Moutat does would have taken this course, and until he does so I have nothing more to say to him.

I am, Sirs, yours truly

JAMES L. MAXWELL, M.D.

Highbury Park, N. Feb 14th, 1893.

THE CONFERENCE ON CHOLERA IN ST PETERSBURG

(FROM OUR SPECIAL CORRESPONDENT.)

(Continued from p. 177.)

THE results of the proceedings of this Conference appear to us only and it will be some time yet before a full account of the proceedings will be published. In the meantime, it appears from conversations with members of the Conference that the general results have been quite satisfactory and in some respects even more so than had been anticipated. The Conference appears to have been carefully organised to carry out the object with which it met. The questions formulated

by the earlier general meetings of the members have been fully discussed by the commissions and sub-commissions and their conclusions have again been presented to the later general meetings for ratification and approval. As stated before, the commissions have held their discussions from ten till three daily, and even in some cases have renewed them after the general meetings of the Conference (held at seven o'clock each evening) and prolonged them far into the night. In this way during the week devoted to the Conference, all the important practical questions have been thoroughly debated by bodies of medical men who may be considered as experts on the particular point submitted to them. Thus one sub-commission, consisting entirely of physicians attached to railways, discussed the measures that have been and should be taken on the railway lines throughout the empire to prevent the introduction or to control the spread of cholera by this means or communication. A second sub-commission was devoted to the discussion of the question of quarantine. These two sub-commissions together formed the Commission constituted to decide the points raised in Dr. Tolstoy's paper on Precautionary Measures directed against the Dissemination of Cholera.

Having spoken above of the practical questions raised by the Conference, it may now be added that all the questions discussed were of a practical character. The many theoretical aspects of the subject do not appear to have come under consideration, or if considered at all, have been treated only as incidental to the decision of some point of practice. The treatment of the disease, as will be shown later, has been briefly reviewed.

The question of quarantine, both by sea and land, was fully debated and certain conclusions were arrived at. Dr. Tolstoy, in introducing the general discussion on this subject, pointed out that some confusion existed as to the meaning of quarantine, the word being often loosely applied to places where detention was not practised, or where merely examination and disinfection were carried out. He recommended the use of the word to those points where detention of the healthier or the person of infection of a threatening epidemic disease is practised, while those points where the examination and disinfection of luggage, the inspection of passengers and the detention of sick alone are carried out should be known, as heretofore, as observation points. The net result of the discussion on this subject has been that the Conference concerned the principle of quarantine as thus defined, and recommended the substitution for it, alike on sea and land frontiers and on the internal lines of communication, of a system of inspection, disinfection and isolation of suspicious cases.

A paper was read by Dr. Uspenski on the Measures taken on Railways a second by Dr. Sakharof on the Measures taken on Waterways and a third by Dr. Yershof on Certain Practical Points in the Medical and Sanitary Services in Districts threatened by Cholera. These papers are not yet in print, but as they led to lively discussions it may be of interest to give the titles of points submitted by one of the writers to be debated in committee, more particularly as they well illustrate the thoroughly practical character of the Conference. Dr. Yershof, in concluding his paper formulated the following questions: 1. What number of medical men are necessary in a given area in relation to the number of inhabitants and taking into consideration the intensity and character of the epidemic? 2. What number of feldshers and attendants (nurses &c.) are necessary for such medical men? 3. Under what conditions are dispensaries necessary and what type should they follow? 4. The carriage of the sick. 5. The conditions under which the sick may be treated at home. 6. To what extent are the rules for disinfection worked out by the Medical Council, capable of being officially carried out, more particularly in villages and country places? 7. To what class of person should be entrusted the carrying out of disinfection? 8. What means have appeared most suitable for disinfection? 9. To what extent has the disinfection of persons arriving from a cholera-stricken locality appeared practicable? 10. To what extent is it possible to substitute the burning of articles for their disinfection, and how could this be organised? 11. By what persons should in future the choice of members of the sanitary service be made? 12. How many such members should be trained in each district? 13. In what kind of medical institution should they undergo

had never been out of India when he joined the army five years ago. He passed a very stringent medical examination and was pronounced healthy in every respect. Eighteen months later he discovered that he had a swelling in the left groin. This continuing to increase and interfering with his efficiency as a soldier, he took his discharge in May, 1891, and came to London for treatment. He was a patient for some time in the London Hospital, where I saw him along with Dr S Mackenzie. There was a large swelling the size of the fist occupying nearly the whole of Scarpa's triangle on the left side. It was prominent, lobulated, soft, painless, obscurely fluctuating, non-adherent to the skin, but not movable on the deep structures. On lying down the swelling somewhat subsided, and when in this position firm pressure with the palm of the hand caused it slowly to disappear. On standing up although pressure was maintained, the swelling gradually reappeared. There was no impulse on coughing. A similar but much smaller swelling existed in a corresponding position on the right side, there was also some obscure fluctuation in the left tunica vaginalis. On thrusting a hypodermic needle into the swelling on the left side a pinkish white, coagulating fluid escaped through the needle in drops and several drachms of the fluid were quickly collected. On placing a little of it under the microscope living embryo filariae were found. Puncture of the left tunica vaginalis gave vent to a similar fluid in which filariae embryos were found in very great abundance. When examined during the night the patient's blood was found to contain filariae. He was evidently the subject of that form of varicose groin glands which is so frequently associated with chyluria, lymph scrotum, chylous dropsy of the tunica vaginalis and filariae in the blood. On the evening of Nov 26th, 1892, I examined his blood along with Dr Wethered. In one slide, containing about one drop of blood, after staining with weak fuchsin and decolourising with weak acetic acid we counted 413 embryo filariae nocturnae. On the 27th he began to take thymol in four grain doses four times a day. He continued to take the drug till Jan 16th. It did not affect his health or comfort in any way. On Dec 6th a small slide of blood drawn at 9 P.M. contained 120 filariae, another drawn at the same hour on Dec 16th contained the parasite in abundance. A full slide examined on Dec 29th contained 359, a fourth slide drawn on Jan 16th, 1893, and which Dr Wethered examined along with me, contained 327 filariae and another drawn at the same time contained 308. In slides of unstained blood the parasites were observed to be active and apparently in no way affected by the long course of thymol. In view of the importance of the subject Surgeon Lieutenant Colonel Lawrie ought to make an extensive series of experiments by which he might either corroborate or upset his statements in regard to the efficacy of thymol in filariasis. Here opportunities are of somewhat rare occurrence, but in India it would be an easy matter to multiply his experiments indefinitely.

I am, Sirs, yours faithfully

PATRICK MANSON, M.B., M.R.C.P., LL.D.

Feb 13th, 1893

UNQUALIFIED PRACTICE

To the Editors of THE LANCET

SIRS,—Your own correspondent at Manchester, at the end of his report on the scandalous case of "unqualified medical practice" at Manchester in THE LANCET of Feb 4th, remarks "If a druggist without medical diploma is to be permitted to conduct a large medical practice, as this man coolly boasts to have done, and if in the course of his trade he improperly attends small pox cases and thus prevents their notification and isolation by the constituted authorities, it is high time that the Notification Act, the Medical Act, or some other statute were so strengthened as to reach such a case." In your annotation you endorse his remarks, and every medical man in the Kingdom will do the same.

There is no question as to the evils of unqualified practice in all its forms, nor can it be denied that the evil is as widespread as it is unchecked. No existing law sufficiently meets the case, the Apothecaries Act is too cumbersome and it would not be fair to expect the Society to act the policeman for the whole profession. The various medical Acts deliberately avoid the issue in question. So far I venture to believe the majority of medical men will be in agreement with me. A great public and professional evil is admitted and the law of the land is not able practically to deal with this evil. It follows that the law requires altering, and the real question

begins as to how it should be done and by whom the Legislature should be approached.

Putting on one side for a moment the public interests, the general practitioners scattered throughout the empire are undoubtedly the chief sufferers, more especially the poorer ones in our great centres. On the face of it, the general body of practitioners are too scattered and possess too little interest in high quarters to combine to carry any Bill through Parliament. The University Senates and the Councils of the Royal Colleges are formed of men who do not have the evil brought under their special notice, and consequently can afford to view the matter without emotion. Moreover, they are not noted for working harmoniously together, and they also are scattered up and down the kingdom. There remains the General Medical Council for Education and Registration. This Council is composed so as to represent the Crown and all the divisions of the medical community. The members are in touch with the Privy Council and in many instances are personally acquainted with our great politicians and law makers. The voice of an unknown person like myself speaking in the wilderness is not likely to penetrate to the ears of these fathers of the profession. It cannot be doubted that it is within the power of the General Medical Council to formulate an amendment to the medical Acts wherein it should be enacted that it was illegal for unqualified persons to prescribe for or treat patients for their own pecuniary profit and to mete out prompt punishment for those who broke the law. These gentlemen alone have the power to approach with any chance of success the government of the day, and as we have for the first time a member of our own profession (Sir Walter Foster) in high office, it would be a graceful act for the Medical Council to make the attempt and show they were alive to the need of pushing outside their present boundaries not only in the interests of the public, but in the interests of the great profession they represent. It is with the hope of inducing the Editors of THE LANCET to use their power in influencing the members of the General Medical Council that I have ventured to write again on this well worn theme and to ask you to point out any alternative method of procedure by which this much needed change in the laws could be accomplished.

I am, Sirs, yours very truly,

Margate Feb 7th 1893.

BERTRAM THORNTON

BRITISH INSTITUTE OF PREVENTIVE MEDICINE

To the Editors of THE LANCET

SIRS.—The skeleton report of a meeting held here on the 2nd inst. in support of the establishment of this institution so incompletely represents what I intended to convey that I must ask you to let me briefly restate my views. They are a matter of such little importance that I am surprised emphasis is laid upon the fact that I left the meeting at all, and still more when it is stated that I left at the commencement of the discussion. I left when I thought the discussion had finished, for there were loud cries of "Vote, vote!" some time before I left, and to be present at all I disarranged my appointments and incurred the discomfort of a midnight journey, because I knew very well that the meeting had an object carefully concealed and quite beyond its avowed scope. What I did say was that I objected altogether to the past record of experiments on animals as delusive, that bacteriological research was a new thing since my student days, that it had unquestionably benefited the brewer and the grower of grapes, that it had possibly conferred benefit in the cases of some diseases of animals, but that in its applications to man I could not admit in a single instance the word "proved" so lavishly used by Dr Ruffer. I therefore yielded to the resolution a reluctant assent, I certainly did not use the words "fully assented."

Thus far I went because I really regarded Dr Ruffer's proposals as reasonable and such as should not be hindered, but it is clear from Mr Victor Horsley's attitude, I was upon this point quite mistaken. I have no intention of continuing this discussion but I should be glad if you would allow me to put myself right on one point. A vast number of illustrations taken from surgical advance have been quoted as illustrations of the value of experiments on animals, and they have been shown, one and all, to be mistaken. I have taken some part in this argument, but between that attitude and a plea for the total suppression of experiments on animals there is a very wide difference, and if such experiments can

NORTHERN COUNTIES NOTES

(FROM OUR OWN CORRESPONDENT)

The Fire at the Newcastle Literary and Philosophical Society

On the 7th inst. the Literary and Philosophical Society of Newcastle celebrated its centenary by a brilliant *soirée*, and Lord Armstrong delivered an interesting lecture, with experiments, on electricity. All passed off well but at breakfast the next morning most of our citizens read with amazement that the place had been burnt down. It was not quite so bad as that, however, still the library has been destroyed either by fire or water, and in some respects the loss is irreparable, as it contained many valuable books, prints and manuscripts, duplicates of which could only be found in the British Museum. The fire, it appeared, arose from some temporary arrangements for heating water for the tea used at the *soirée* and broke out at five o'clock. There was no resident on the premises at the time.

Fleming Memorial Children's Hospital

The annual report presented at a meeting of Governors of the Fleming Memorial Children's Hospital, Newcastle, states that a larger amount of work has been done than in any previous year since the hospital was established. The number of children—namely 584—shows an increase of 153 over the number treated in 1891, and 353 over that treated in 1890. The number of operations has risen from 55 in 1890 and 137 in 1891 to 318 in 1892. The average cost of each patient, including all expenses, was £5 10s 1d. Through the kindness of Lady Armstrong the out-door department was still carried on in Hanover square, and there the number of fresh cases has also risen. In addition there were 852 out-patients treated at the Fleming Memorial Hospital. In the report from which this note is extracted there is nothing said about the rate of mortality. It was considered by many as excessive. The drainage and other sanitary defects have been overhauled during the year, the financial state of the hospital is likewise more satisfactory than in the previous year.

Infantile Mortality in the Auckland District

At the last meeting of the Auckland Sanitary Authority one of the medical officer's reports stated that in his district 466 deaths took place. Of these 180 occurred in children under one year of age, more than half in those under five years, 20 succumbed to measles, and 51 to zymotic diseases.

Middlesbrough

At the last meeting of the Sanitary Committee of the Middlesbrough authority Dr Malcomson stated that ten deaths had resulted from pneumonia during the month, and one death was due to influenza, which had been very prevalent in a mild form. During the month eight cases of small pox had been treated at the Fever Hospital. At a coroner's inquest held at Middlesbrough last week on a child the coroner severely reprimanded the father of the child for saving by a series of misstatements seriously imperilled the medical attendant's position and practice, but the doctor, he said, and his locum tenens were entirely free from blame.

A Daring Leap

Last week a member of a performing company in Newcastle leaped from the parapet of the High Level Bridge, a distance of about 130 feet, to the water. On rising to the surface he struck out for the shore, which he reached in safety. He was, it is stated, "a professor" of swimming. I presume the worst of these feats is that they are apt to be imitated by amateurs, who may not fare so well as 'the professor'. A few years ago a workman in a state of drunkenness jumped off the bridge for a wager and survived the insane attempt. About thirty years ago a professional swimmer performed the feat in safety.

February 15th.

SCOTLAND

(FROM OUR OWN CORRESPONDENT)

Infectious Diseases Hospital for Leith

The plans of this hospital, as generally approved by the subcommittee of the Leith Town Council, are on view in the Council chamber. The plans show five wards four of which contain eighteen beds each, whilst the fifth is a probationary

ward with ten beds. The cubic space allowed for each bed is 2028 ft. The wards are to be heated partly by low pressure hot-water pipes and partly by fireplaces. There are a disinfecting house, a mortuary and an administrative block, in which there is accommodation for doctors, nurses, servants and other officials. The total cost, including furnishing, is estimated at over £24,690.

Orders by the Board of Supervision to Leith

The Board of Supervision has issued an order to Leith in virtue of the authority vested in them by Act of Parliament to issue such directions and regulations as they may think fit for the prevention of epidemic or infectious diseases. The order says that whereas directions and regulations extending to the whole of Scotland were issued by the Board on July 21st, 1892 and whereas it is expedient that provision should be made by the local authority for a house to house visitation within the burgh of Leith, therefore in virtue of the authority vested in it the Board orders this to be done. Further, it is ordered that whenever it is found that a dwelling house or other property is a nuisance, in terms of the Act, the local authority shall without delay instruct their officers to carry out the measures set forth in the Board's directions and regulations dated July 21st, 1892, or such other measures as may be required to remove or abate the nuisance. This order is the outcome of a report by the inspecting officer of the Board in which slum property owned by the corporation themselves is dealt with. With one exception, the property is said to be damp, dirty, dark, overcrowded and badly ventilated, and it is recommended that these dwelling houses should be closed. The report recommends in addition that the sanitary inspector should be provided with a sufficient staff, that the medical officer's department should be reorganised and the medical officer should not engage in private practice, and that the milkshops lodging houses and bakehouses should be examined and their owners made to comply with the existing rules and regulations. The Board have pointed out to the local authority that there appears to be an unusually large proportion of insanitary property in the burgh, that in the opinion of those best able to judge there was a probability of cholera assuming an epidemic form in spring, and that therefore it was of prime importance that the local authority of the seaport in most direct communication with continental seaports should be thoroughly prepared to cope with the disease should it unfortunately appear in this country, and it is with these objects in view they have issued the order referred to.

February 14th.

IRELAND

(FROM OUR OWN CORRESPONDENT)

Dublin Hospital Sunday Fund

THE nineteenth annual meeting of the supporters of this Fund was held last week. The total contributions last year amounted to £4262 10s 5d, being an increase of £279 11s as compared with the previous year. The working expenses came to £260 8s 7d, or 6 46 per cent on the total collected. The committee, having ascertained that a sum of £4185 was available for distribution and for current expenses during the year 1893, determined to distribute the sum of £4020 among the sixteen participating institutions in consideration of subscriptions received and work done.

Dublin Main Drainage Bill

A meeting of burgesses of the City of Dublin was held last week at the Mansion House for the purpose of authorising the Corporation and burgesses to raise further moneys by borrowing to carry out the proposed main drainage scheme, and to lay a second line of pipes from the Varty works to Stullorgan, where the reservoirs are, so as to ensure an uninterrupted supply of water to the city and townships. The necessity for the main drainage scheme goes without saying and as regards the second line of pipes to the reservoirs, it is urgently wanted, as the line of pipes laid down twenty five years ago have become narrowed by the deposits from the Varty, which has seriously reduced the waterway of the pipes and materially diminished the volume of water sent from the Varty to the Stullorgan reservoirs. The effect of this is that one of the reservoirs is completely empty and the other less than half full. When the second line of pipes is completed it will be possible to thoroughly cleanse and overhaul the original pipes, and then, with a double or alternative service,

their training? 14 What payment should they receive during the period of their training? 15 What outlay in general would be required for organising such courses of training? 16 What payment should the trained members receive?

The first ten of these questions were discussed in committee, the last six, relating to the sanitary service, were discussed at the third general meeting of the Conference. Representatives of the governments of Orel; Radow, Yaroslav, Simbirsk, Kursk, Samara and Bessarabia recounted their experiences in their respective districts in the training of Sisters of Mercy and disinfection. They were unanimous in testifying to the value of even the shortest period of training. The period varied from ten days to six weeks, and the instruction was in all cases as practical as possible. The candidates received a short course of lectures on the rudiments of anatomy and physiology, and on the general principles of hygiene, nursing and disinfection, and at the same time were in attendance for so many hours each day on the patients in the infectious wards of the hospitals. When the epidemic reached any district there was almost everywhere a temporary reign of panic and disorder, the ordinary hospital accommodation and the sanitary and medical services proved inadequate to deal with the immense number of cases. Then the value of the temporarily trained Sisters of Mercy and of disinfectors was evident. As they were distributed in the villages the panic subsided and the peasants willingly accepted their services. Professor Pavlovski considered that in nursing cholera patients—where constant attention is necessary—women are preferable to male attendants, and many other speakers supported this view. The difficulty of providing medical men and nurses for distant villages was pointed out, and in illustration of this may be quoted the Samara government. Here in one uyezd alone there are 300 villages, separated from each other by an average distance of from thirty to forty versts. Many of these villages were unprovided with hospitals, doctors or even feldschars. The difficulty was, however, met to a great extent, and from the town of Samara from 180 to 200 trained attendants were distributed over the infected villages, where their services were greatly appreciated by the peasants.

In this work of training attendants and disinfectors the Red Cross Society has played the most active part. This Society, founded just twenty five years ago, has branches in nearly every part of the country. The payment of the Sisters of Mercy and disinfectors was derived from its funds. The scale of payment has varied considerably. Sisters of Mercy received from 15 to 50 roubles per month, the higher figure having been paid in the Yaroslav government, where the inhabitants charged them extortionate prices for food and other articles supplied to them. The disinfectors received from 10 to 15 roubles per month.

At the third general meeting of the Conference the following telegram of congratulation was sent to M Pasteur on the occasion of his seventieth birthday: "The Conference of Russian physicians who have taken an immediate part in the struggle with the cholera epidemic, and who are met in St. Petersburg from all the ends of Russia, congratulates the illustrious teacher on his seventieth birthday, wishing him many long years of activity devoted to the glory of his beautiful country, to the glory of science of which he is the pride, and of humanity which owes him so much."

MANCHESTER

(FROM OUR OWN CORRESPONDENT.)

Ancoats Healthy Homes Society

THE usual monthly meeting of this useful Society was held last week, Mr Phythian, a member of the City Council, having undertaken to entertain the poor people of Ancoats with a lecture on "Italian Towns in the Middle Ages." The large hall at New Islington was as usual crowded, the audience numbering about 600 all of whom were members of the labouring class. Mr Phythian, in the course of his lecture, showed pictures of Venice, Florence, Genoa, Pisa and other Italian cities, and spoke about their government, trades, arts and industries, and their relation to each other. He remarked that our own English towns were better in some respects than the foreign cities he had been describing, they were healthier and more convenient, but still they were very far indeed from being healthy enough,

and they were dismal and very ugly. He, however, expressed the opinion that Manchester might readily be very much improved if the people themselves would only take an interest in these things and communicate their wishes to their representatives on the city council.

Public Vaccination by Sanitary Authorities

At the 1st meeting of the Stretford Local Board the medical officer of health reported the occurrence of a case of small pox in a populous part of the township, and detailed the steps which had been taken by his advice to prevent further spread of the disease. A member of the board drew attention to the fact that the Moss side Local Board had recently appointed their medical officer of health as a temporary public vaccinator, and had issued advertisements to the effect that vaccinations would be performed by him at the expense of the Board. On its being suggested that the Stretford Board should take similar action for the purpose of securing the vaccination of the inhabitants of that district, a medical member of the board, who is also the Public Vaccinator, explained that such a course of action would be illegal, and that any moneys expended by the board on vaccination, would probably be surcharged by the auditor, as the guardians of the poor were the sole authority under the Vaccination Acts, and it would be undesirable to interfere with their functions, especially in face of a possible epidemic of small pox. Eventually the board decided to leave the matter in the hands of the Guardians.

The Small-pox Epidemic

Unfortunately there are, as yet, no good grounds for believing that the epidemic of small pox, which for some time past has prevailed in and around Manchester, has reached its worst. Although from the returns of the medical officer of health for the city the number of cases reported last week were fewer by twelve than in the week immediately preceding, nevertheless the distribution of the disease over the city area continues to be very wide, and there scarcely seems to be a district of the city which is quite free from infection. I also learn from the same source the sad fact that as time advances the type of the disease becomes progressively more serious, a dozen deaths from small pox having occurred in Manchester during the last fortnight. Several hæmorrhagic cases have occurred, which have of course proved fatal, and a large proportion of the cases admitted recently have been of the confluent or semi confluent variety. The small pox sheds at Monsall are still fully occupied, although they are much less crowded now than they were a fortnight since, for within the last few days an additional pavilion for twenty four beds has been opened, and fifty of the convalescent patients have been transferred to the "home" at Clayton Vale, which the corporation have recently adapted for the reception of overflow cases from Monsall. The Salford authorities, too, have bestowed themselves to provide hospital accommodation for smallpox cases within their own area instead of sending them to Monsall. Within the last few days smallpox has again broken out in Failsworth, the extra municipal district, where it will be remembered the first cases occurred, which remaining unreported led to the first importation of the disease into Manchester. Happily Failsworth has now adopted the Compulsory Notification Act, so that the local medical officer of health receives prompt intimation of the cases as they occur, and as the Monsall authorities still continue to receive any cases that occur in that district it is hoped that this second outbreak has already been satisfactorily dealt with.

The Withington Hospital Site

The appeal by the Withington Local Board from the decision of Mr Justice Chitty has been dismissed with costs by the Lords Justices, before whom the case was heard, and the Withington Local Board have intimated that, in face of that decision, they do not feel justified in carrying their appeal to a higher court. So far, therefore, as the Board is concerned, the Corporation of Manchester are now authorised to complete their hospital already partially erected on their own land at Withington. It appears however, that two private individuals have now brought an action at common law against the Corporation to restrain them from committing a nuisance. The action will be heard before Mr Justice Chitty this week, and until his decision is given the Corporation will perhaps scarcely feel themselves justified in proceeding to occupy their new hospital.

February 14th.

a hot one, which was then treated surgically like a common phlegmon. Healing took place very rapidly. More than 240 cases have been treated until now by this method by Moseing. Teucin has also been used in cases of fungous adenitis instead of *curettement* and has proved very successful. The injections showed a highly absorbent effect when made in the neighbourhood of swollen lymph glands. Beneficial effects of teucin injections have also been found by Dr Eliegi (Moseing's assistant) in cases of actinomycosis and lupus. Moseing believes that the injections of teucin will prove to be very useful, especially in cases of local tuberculosis of the soft tissues as caseous infiltrations are destroyed after the injections by the acute inflammation which follows, while more recent tuberculous infiltrations may disappear by being absorbed under the influence of the hyperemia caused by the injection.

February 15th.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND—

The following gentlemen having passed the necessary examinations and having conformed to the by laws and regulations, have been admitted Members of the College under the old regulations—

Barball Charles Edward, L.R.C.P. Lond., Kensington.
Broadhurst, Charles Henson, L.R.C.P. Lond., Anerley.
Carter John George, L.R.C.P. Lond., New Kent road.
Chamberlain, Edward Beatty, L.S.A., Broadthampton.
Christie Wm Ledingham, M.D. N. / Dundee & A. Zealand.
Darabseth, Naoraj Beramji, M.B. Aberd., Amp'hill square.
Edge Arthur James, L.R.C.P. Lond., St. Bartholomew's Hospital.
Morgan, Charles Arthur, L.S.A., Weston super Mare.
Plumbe Arthur, L.R.C.P. Lond., Newark street.
Sart, Frederick William Arthur, L.S.A., Haslingden.
Turner Philip Watson, L.R.C.P. Lond., Arlington road.

UNIVERSITY OF LONDON.—The following candidates have passed the Intermediate Examination in Medicine

ENTIRE EXAMINATION

First Division.—Guy Joseph Branson, B.A. Mason College Archer Wm. B. Cochrane, St. Bartholomew's Hospital Ralph Hopkin, Yorkshire College.
Second Division.—Percy Edward Adams, Percy Crompe Barford, Frank Marsden Burnell, J. F. Goodfellow Calverley, Cras Sempill De Segundo, William Edward Nickolls Dunn, and Thor' Hampton, St. Bartholomew's Hospital, Jackson Arthur Atkinson and Francis Chown, St. Mary's Hospital, Cecil Banting, Francis James Conitts, Alfred Henry Gerrard, Wm. Ernest Leethem Horn r and Arthur Marriott, University College, Jos ph Cohen, Hugh Mabinson Bigby and Richard Hamilton Townsend, London Hospital, Ernest Coleman, Guy's Hospital, Arthur Pollard Cummings, Yorkshire College, Robert Hughes, St. Thomas's Hospital, Tom Harold Hunt, Owens and Yorkshire Colleges, Frank Harwood Jacob and Fredk. Septimus Percy Kings College, William Percy Nicol, Mason College, George Basil Price, Bristol Medical School and Clifton Laboratory, Matthew Harper, M. d'iesex Hospital, Sydney Gordon Tippet and Francis Kenneth Wilson, Westminster Hospital, Thomas Henry Wells, Middlesex Hospital and Birkbeck Institute.

EXCLUDING PHYSIOLOGY

First Division.—Eustace Bernard Bostock, Mason College, Arthur William Jenkins, University College.
Second Division.—Wilfrid Allport, Charles Holt Caldwell and David Horwich, Mason College, Maxwell Dick, Robert Macfie Johnston, Edward Thomas Jones and Morris Wilks, University College, Arthur David Ducat, St. Bartholomew's Hospital, William Henry Holliday and Albert Edward Hutton, Yorkshire College, Clarence Harry Mott, London Hospital.

PHYSIOLOGY ONLY

First Division.—Arthur Hannard, University College.
Second Division.—Joseph Norwood Brown, George Wilfrid Costling, Austin Edward Reynolds and Sidney Edward Shoppee, University College, John Samuel Chater, St. Bartholomew's Hospital, Matthew Leslie G. Halliart, Mason College, George Robert Harcourt, St. Thomas's Hospital, Frank Drew Harris and Sydney Price, James, St. Mary's Hospital, Amelia Maitland Le Pelley, London School of Medicine for Women, John Vace and Archibald Tait, Yorkshire College, William Matthews Price, Guy's Hospital, Robert Henry Tompsett, St. Thomas's Hospital, Archibald Young, Sheffield Medical School and University College.

UNIVERSITY OF DUBLIN.—The following degrees were conferred by the University Cypat this week—

Bachelor in Medicine, Surgery and Obstetrics.—Andrew Francis Dixon, William George Danwoody, Hampton Atkinson, Gray John George, Hearn Hugh Irwin, Henry Thomas Knapp, Francis Hyde Maberly, Edward Hugh Montgomery, Daniel Frederic Ramsay, and Richard A. Skekelton.

Doctor in Medicine.—Arthur Auld Ali, Charles Robert Frowne, Daniel Frederic Hambro, Wm. Ribton Spowart, Charles Eltring, in Stokes Philip Cramp on Walker and Digby Cooke Whit e.

THE WOODSTOCK HOSPITAL, CAPE TOWN.—On the 16th ult. the suburban hospital, situated in Woodstock, Cape Town, was opened by the Governor Sir Henry Loch, with masonic honours and amidst great enthusiasm. The cost of the hospital is estimated to amount to about £1500, which has already been nearly covered by subscriptions.

THE OPIUM TRAFFIC.—On Wednesday last a meeting was convened at Exeter Hall, under the presidency of Sir Joseph Pease, M.P., to protest against the opium traffic. Resolutions urging reasons against the continuance of the traffic and calling upon Her Majesty's Ministers to suppress it, in the interest alike of humanity in general and of the people of India in particular, were carried unanimously.

THE SANITARY INSPECTORS ASSOCIATION.—Dr B. W. Richardson, the president of the above Association, presided at the annual dinner, which was held in London, at the Criterion on Saturday, Feb. 11th. In replying to the toast of his health, Dr Richardson spoke of the genuine tribute which had been paid to the Society by French scientific men and referred to the awakened interest in England. It was the mission of the Association, he said, to make the nation a garden of purity and sweetness.

FOOTBALL CASUALTIES.—In a match on the new Recreation Ground at Alton, Surrey, on the 4th instant between Farnham and Alton, a player fractured his jaw. On Saturday last the following accidents occurred. During the progress of a match between the Leeds Parish Church and Sunderland teams at Crown Point a player of the former team sustained serious internal injuries and was removed to the infirmary during a match at Wall-end-on Tyne between Percy Park and Wallsend a member of the latter team fractured his leg below the knee, whilst playing in a League game at Darwen a player fractured one of his legs.

CHARING-CROSS HOSPITAL.—The report of the annual Court of Governors which was held on the 15th inst was from a financial point of view, far from satisfactory. Indeed the state of things in this respect, the report stated, afforded ground for considerable apprehension so that unless help be vouchsafed to a large extent the number of beds in the institution will have to be speedily reduced. The ordinary income accruing to the general fund during the past year had amounted to £8566, of which £1790 was derived from donations against £3815 from the same source in 1891. It is to be hoped, as the chairman remarked, that the operations of the charity may not be crippled by want of means and that projects for enlarging the accommodation for both students and nurses may yet be carried out.

METROPOLITAN ASYLUMS BOARD.—The number of patients remaining in the several fever hospitals of the Board at midnight on Feb. 14th was as follows—Eastern Hospital, 193 scarlet fever, 59 diphtheria and 34 enteric fever, North Eastern Hospital, 493 scarlet fever, North Western Hospital, 204 scarlet fever, 96 diphtheria and 7 enteric fever, Western Hospital, 212 scarlet fever, 32 diphtheria and 9 enteric fever, South Western Hospital, 238 scarlet fever, 53 diphtheria and 23 enteric fever, South Eastern Hospital, 289 scarlet fever, 13 diphtheria, 25 typhus fever and 13 enteric fever, Northern Hospital, 525 scarlet fever and 14 diphtheria, Gore Farm Hospital, 300 scarlet fever. On the same date on the hospital ship *Atlas* and *Catalina* there were 46 and 71 cases of small pox respectively.

SOCIETY OF PUBLIC ANALYSTS.—A special meeting of the members of this Society was held on Wednesday last at the rooms of the Chemical Society with a view to the consideration of a series of resolutions bearing upon the working of the adulteration laws. The chairman Mr M. A. Adams, F.R.C.S., said the Council of the Society had invited a number of representative men to attend the meeting. He then proceeded to move resolutions to the effect that an amendment of the adulteration laws was urgently required and that it is necessary that adequate provision be made for securing uniformity in their application further that it is desirable that there should be a duly constituted chemical department attached to the Local Government Board and that the compulsory combination of the two offices of medical officer of health and public analyst is undesirable. The resolutions were carried.

an uninterrupted supply of water to the city will be practically assured. A Bill will be promoted by the corporation for the purpose of borrowing £100,000 to carry out the necessary works, and as the Bill had the support of the late Government and also of the present Chief Secretary and the Local Government Board, it is not probable that it will be opposed at any stage.

Cork District Lunatic Asylum

During the past year 277 patients were admitted to the asylum, and the daily average number resident was 1076. The total number under treatment was 35 more than in 1891, 103 of the inmates were discharged recovered, 70 improved, 5 not improved and 68 died. The resident medical superintendent refers in his annual report to the great increase in lunacy which has taken place in the county as contrasted with twenty five years since, although the population has diminished. That lunatics are now more frequently sent to asylums for treatment partly accounts for this increase. Formerly they were only sent in when too dangerous to be at large and in many cases when all hope of recovery had gone. The deaths came to 68, which shows a mortality of 6.3 per cent. on the daily average number resident, and is the lowest on the records of the asylum. Save one case of mild typhoid fever there was no zymotic disease. The new building begun nearly three years since is now approaching completion, and it is probable that it will be available for occupation some time during the present year. It has been constructed to accommodate 420 patients, and this, with the provision in the main building and hospital, will give a total accommodation for about 1320. The numbers in the asylum, on the day the report was presented, were 1100, so that it will not be difficult to fill the vacant beds if care is not taken to keep out chronic and incurable patients. The new building consists mainly of large day rooms and dormitories, and has been constructed for the accommodation of quiet patients, three of the male wards in the main building will be given over to the female patients, and only 200 beds will be retained for the men, for the treatment of recent suicidal, epileptic and dangerous cases. The other works, such as the reconstruction of the laundry, the erection of sanitary turrets on the male and female sides of the main building and a mortuary, will be commenced this spring. The total expenditure was £22,120 16s 8d, or £20 11s 1d per head, this being 15s 4d per head less than in 1891.

Nile street Hospital, Cork.

The annual ball for the benefit of the lying in hospital, Nile street, was held last week. The ball was well attended and a very considerable sum has been obtained for a deserving charity.

Mr Werner has been appointed Lecturer on Ophthalmology in the Catholic University Medical School.

February 14th.

BERLIN

(FROM OUR OWN CORRESPONDENT)

The Twelfth Congress for Internal Medicine

The twelfth Congress for Internal Medicine will meet at Wiesbaden from April 12th to 15th. Immermann of Biele in the chair. On the 12th Rumpf of Hamburg and Gaffky of Giessen will speak on cholera. On the 14th the subject of "traumatic neuroses" will be dealt with by Strümpell of Erlangen and Wernicke of Breslau. The following papers are also announced: Ziemssen of Munich on Parenchymatous Injections in Diseases of the Tonsils, Emmerich of Munich on the Preparation Preservation and Application of "Immunotoxinprotein" for the Cure of Infectious Diseases and Protective Inoculation against them, Adamkiewicz of Cracow on Cancer and its Treatment, Jaksch of Prague on the Chemistry of the Blood, Meringe of Halle on the Function of the Stomach.

The German Pestilence Act

The draught of an Act concerning the combating of diseases dangerous to the public was laid before the Federal Council of the German Empire a few days ago. It is in six sections consisting of forty six paragraphs. The first section treats of notification, the second of the ascertaining of the disease, the third of protective measures, the fourth of indemnifications, the fifth consists of general regulations and the sixth deals with penalties. It is hoped that the Act will pass through the various legislative stages and come into force this year.

An International Cholera Conference

It is stated in the papers that an International Cholera Conference will meet in Dresden this month, but I hear on excellent authority that it will not meet till March. The *Politische Korrespondenz* (*Political Correspondence*) writes: "The measures which were taken by the various Governments last autumn on the occasion of the outbreak of cholera had an extremely paralysing effect on all commercial traffic. The possibility of cholera breaking out again next spring has given rise to the general wish to bring about an international discussion of the questions at issue, with a view to taking care by joint agreements that, on the one hand, the spread of the pestilence be combated in the most uniform manner possible, and that, on the other, the limitations of traffic caused thereby do not go beyond the limits of scientifically recognised necessity. The Austrian Government has therefore suggested to the other European States the convening of an international conference to deliberate the above questions. It is also intended that the question of river navigation shall be discussed, and an agreement regarding the questions connected with quarantine, in the spirit of the resolutions arrived at by the Venice Conference last year aimed at. We learn that this suggestion has been favourably received by all the Governments, and that such an international conference is expected to meet in Dresden in the end of February." The *Berlin Post*, a paper likely to be well informed on such a point, states that the suggestion was not made by Austria-Hungary alone, but by that State and Germany conjointly.

Professor Dubois Reymond

Professor Dubois Reymond last Saturday celebrated the fiftieth anniversary of his graduation.

February 18th.

VIENNA.

(FROM OUR OWN CORRESPONDENT)

Infectious Diseases in Austria-Hungary

WHILE no case of cholera has occurred in the Austrian part of the empire during the last week, the occurrence of single cases has been notified again at Budapest, where five cases are now under treatment at the cholera hospital. An outbreak of influenza has been reported from some villages in Styria, where the mortality has been considerably increased by that disease. At Vienna some cases of intestinal influenza have been observed.

Teucrin in Chronic Inflammations

Ever since Professor Liebreich of Berlin showed that the cantharidine compounds produce similar effects to Koch's tuberculin, various experimenters have searched for substances acting in the same manner, and there are certainly a great number of different chemical bodies which, when administered by injection into the animal organism, produce local hyperemia around the remains of chronic inflammatory processes and the site of foreign bodies, as well as an increase of the production of lymph accompanied by so-called general symptoms—e.g., tachycardia, fever &c. Such a "lymphagogue," as it may be called from the experiments made by Professor Heidenhain of Breslau, has now been found by Professor Mosetig of Vienna to exist in the plant called *Teucrium scordium*, one of the Labiate which was officinal many years ago and which was known even to Dioscorides as possessing an antiseptic action. Mosetig used an aqueous extract prepared from the herb which he called teucrin the dose varying up to five grammes. When injected subcutaneously in healthy or sick persons teucrin produces a sudden rise of temperature, reaching 38.5° to 40.0° after four hours and lasting from eight to ten hours. The fever thus produced exhibits the characters of Volkmann's aseptic fever, the patients feel themselves as well as before, the appetite is increased, and the secretions and excretions are not changed. Locally there is only a slight swelling round the puncture, sometimes oedema and pain are produced persisting for twenty four hours in healthy persons, but in diseased tissue a very active hyperemia is induced lasting some days and its effects manifest themselves by changes in the morbid tissue, and even finally, by the total absorption of the latter. Teucrin injections were employed by Mosetig in cases of cold tuberculous abscesses. Generally three grammes of the teucrin were injected near the abscess subcutaneously. Two days after the injection the cold abscess had become

Appointments.

Successful applicants for Vacancies Secretaries of Public Institutions, and others possessing information suitable for this column are invited to forward it to THE LANCET Office directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number

AILEY WM. M.D. M.S. Irel. has been appointed Medical Officer for the Third (Eastern) Sanitary District of the Hexham Union, vice Richards deceased.

BEAUMONT, E. L.R.C.P. Lond., M.R.C.S. has been appointed Assistant Medical Officer pro tem to the Lewisham Board of Guardians.

BROWNING, G. M.R.C.S. has been reappointed Medical Officer of Health for the Stocksbridge Urban Sanitary District of the Wortley Union.

COOPER, JAMES, M.R.C.S. L.R.C.P. Lond. has been appointed House Surgeon to the Great Northern Central Hospital Holloway road.

DAVIES, H. M.R.C.S. has been reappointed Medical Officer for the Cottage Homes of the Pont y Pridd Union.

EVATT, E.P. L.R.C.P. L.R.C.S. Edin. has been reappointed Medical Officer for the Tenth Sanitary District of the Hexham Union.

FERNY, M.D. Edin. M.R.C.P. Lond. has been appointed Honorary Physician to the Essex and Colchester General Hospital.

FERNIE, F.E. M.R.C.S. L.R.C.P. Lond., has been appointed Junior House Surgeon to the Stockport Infirmary.

HILLMAN G.B. L.S.A. has been appointed Medical Officer of Whitwood vice McMaster.

HITCHINS, C.V. M.R.C.S. has been appointed Medical Officer of Health for Weston-super-Mare.

HOGG, R.B. M.R.C.S. has been appointed Senior House Surgeon to the Darnley Hospital New Zealand.

KEMPE, C.M. M.R.C.S. has been reappointed Medical Officer of Health for the Shoreham Port Sanitary Authority.

KEMMIS H.M. L.R.C.P. Irel. M.R.C.S. has been appointed Medical Officer for the No 1 Sanitary District of the Bridgwater Union.

MINLEY, J. HERBERT H.M.B.C. Camb. M.R.C.S. D.P.H. Camb. has been reappointed Medical Officer of Health for the County Borough West Bromwich.

PITCHAM, G.K. M.B. C.M. has been reappointed Medical Officer of Health, Littleborough.

REICHAERT, E.N. M.B. Lond., has been appointed Medical Officer for the Ewell, Chessington and Cuddington Sanitary Districts of the Epsom Union.

THOMSON, ARTHUR, M.B. Edin. D.P.H. Camb. has been appointed Medical Officer of Health to the Urban Sanitary District of Stratford-on-Avon, and to the Rural Sanitary District of Stratford-on-Avon.

TREWEY, LULIAN L.R.C.P. L.R.C.S. Edin. L.F.P.S. Glasg. has been appointed Senior House Surgeon, Lady Dufferin's Hospital at Agra, India.

VACHER, F. F.R.C.S. M.R.C.P. Edin. has been appointed Medical Officer of Health for the County Cheshire.

VINEACE, J.H. M.B. Lond. M.R.C.P. has been appointed a Physician to St. John's Hospital for Diseases of the Skin.

WOODFORD, W.T.G. M.D. Lond. has been reappointed Medical Officer of Health for the Berkshire Combined Sanitary Districts.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

CANCER HOSPITAL (FREE) Fulham road S.W.—House Surgeon for six months. Salary at the rate of £50 per annum with board and residence.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST Victoria park E.—House Physician for six months. Board and residence, and allowance for washing provided. (Apply to the Secretary 24, Finsbury circus, E.C.)

COUNTY ASYLUM, Prestwich Manchester.—Junior Assistant Medical Officer (unmarried). Salary commences at £100 per annum with prospects of future increases.

GENERAL HOSPITAL, Birmingham.—House Physician for one year. Salary £70 per annum, with residence board and washing.

LONDON LOCK HOSPITAL, Harrow road W.—House Surgeon to the Female Hospital. Salary £100 per annum, with board, lodging and washing.

LONDON TEMPERANCE HOSPITAL, Hampstead road N.W.—House Surgeon for six months. Salary at the rate of 60 guineas per annum with residence in the hospital, board and washing provided, and an honorarium of five guineas conditionally.

LONDON TEMPERANCE HOSPITAL, Hampstead road N.W.—Junior House Surgeon for six months.

METROPOLITAN ASYLUM BOARD.—First Assistant Medical Officer for the Leavenden Asylum for Imbeciles near Watford Herts. Salary £100, rising £20 annually to £200 with board, furnished apartments and washing (Apply at the Chief Offices, Norfolk street, Strand, W.C.)

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon. Salary £150 per annum with rooms and attendance.

OLDHAM INFIRMARY.—Senior House Surgeon. Salary £50 per annum with board, lodging and washing.

OLDHAM INFIRMARY.—Junior House Surgeon. Salary £50 per annum with board, lodging and washing.

PUBLIC DISPENSARY, 39 Stanhope-street, Clare market.—Physician. (Apply to the Secretary 14 Portugal street Lincoln's-inn.)

ROYAL SOUTH LONDON DISPENSARY, St. George's-cross, S.E.—Honorary Surgeon.

SALFORD ROYAL HOSPITAL.—House Surgeon. Salary £100 per annum, with board and residence.

ST JOHN'S HOSPITAL FOR DISEASES OF THE SKIN Leicester square, W.C.—Assistant Physician.

ST JOHN'S-WOOD AND PORTLAND TOWN PROVIDENT DISPENSARY, N.W.—Third Medical Officer. (Apply to the Secretary, 1, Henstridge-villas, St. John's-wood.)

ST. MARY'S HOSPITAL MEDICAL SCHOOL, London.—Demonstratorship in Chemistry and Physics. Salary £100 per annum.

ST PANCRA'S AND NORTHERN DISPENSARY, 120 Euston road.—Physician Accoucheur. (Apply to Hon. Sec., 23, Gordon street, Gordon square W.C.)

THE HOSPITAL FOR SICK CHILDREN, Great Ormond-street, Bloomsbury W.C.—Surgeon.

THE HOSPITAL FOR SICK CHILDREN Great Ormond street, Bloomsbury W.C.—Assistant Surgeon.

UNIVERSITY OF GLASGOW.—Four Examinerships for Degrees in Medicine. Annual fee in each case is £30 and the term of office is till Dec. 31st, 1896.

WEST RIDING ASYLUM Wakefield.—Resident Clinical Assistant, for six months. Board and furnished apartments provided.

YORK DISPENSARY.—Resident Medical Officer. Salary £150 a year with furnished apartments, coals and gas.

Births, Marriages and Deaths.

BIRTHS

BARKER.—On Feb 7th, at Harley street, Cavendish square, W, the wife of Arthur E. Barker F.R.C.S. of a daughter.

DALLEWY.—On Feb 10th, at the Crescent, Wem Shropshire, the wife of John Dallewy L.R.C.P. M.R.C.S. of a daughter.

KENNEDY CASLEY.—On Feb. 6th at the Old House Ipswich, the wife of R. Kennedy Casley, M.D. of a daughter.

LODGE.—On Feb. 10th, at Raglan, Monmouthshire, the wife of A. G. S. Lodge M.B. of a daughter.

PESKETT.—On Feb 10th, at York House, Burnham, Somerset, the wife of A. W. Chalmers Peskett, M.A., M.B., B.C. Cantab. of a daughter.

WALKER.—On Feb 14th, at Pine House, Hurworth-on Tees Darlington the wife of Dr C. E. Walker of a son.

WILSON.—On the 9th inst. at Denham House Goldhawk road, London W. the wife of James Wilson M.D., of a daughter.

MARRIAGES

JACK-BARROW.—On Feb 14th at St. Mary's The Boltons South Kensington Dr Jack, of Harley gardens to Matilda Stewart, third daughter of the late William Donovan Barron, of Gloucester place Portman-square.

MACGREGOR-KAYE.—On Feb. 8th, at All Saints' Cawthorne by the Rev C. T. Pratt, M.A. Vicar assisted by the Rev John Kaye, M.A. of Westbury Wilts, brother of the bride Alastair MacGregor, M.B. Edin & C.M. of Shepley Yorks., youngest son of the late Rev. Alexander MacGregor, M.A. West Church, Inverness to Annie only daughter of Joshua Kaye Esq., of Dean Hill, Barnsley Yorks.

NASH.—WILSON.—On Feb 9th at St. Andrew's Church Plymouth, by the Rev W. Gray Rector of Meavy Walter Gifford Nash F.R.C.S. Eng., son of the Rev F. Gifford Nash, Vicar of Clavering Essex to Catharine Isabel Moore Wilson, daughter of J. Walker Wilson Esq. 10 Leigham Villas Plymouth.

RICHARDSON-EGGLAND.—On Feb 1st at St. Stephen's Church, Kir stall Leeds by the Rev Canon Talbot assisted by the Rev N. Egerton Leigh, Vicar of Kirtall, Rev Cecil Sykes Vicar of Cowick and the Rev J. Cockerill, Burley Martin James Richard son, M.B. youngest son of Martin Richardson Esq., solicitor Bridlington to Elizabeth Maud, youngest daughter of N. H. Egland Esq. M.D. St. Ann's Lodge Barley Leeds.

ROOKE-COCHRAN.—On Feb 2nd at St. Margaret's Church Westminster Ernest Morley Rooke M.R.C.S. Eng. L.R.C.P. Lond., son of Thomas Morley Rooke M.D. Cheltenham, to Fanny Josephine second daughter of James Cochran formerly of Widgeia Estate Riverina New South Wales Australia.

WHITEHEAD-CATLEY.—On Feb 13th at St. Mark's Woolston Hants, Surgeon Captain H. R. Whitehead, Army Medical Staff second son of the late Rev T. G. Whitehead, M.A., to Evelyn Wynne, second daughter of Henry Cayley, Esq., of the Towers Woolston.

DEATHS

DANIEL.—On Jan 25th at Wareham Dorsetshire Woodruffe Daniel, M.F.C.S. Eng.

DAVIES.—On Feb 7th, at Marlborough buildings, Bath William Davies, M.D., F.R.C.P.L. aged 74.

HARRIS.—On Dec 22nd 1892, at Barkley West, South Africa William Ross Harris, J.P. M.R.C.S. L.R.C.P. District Surgeon aged 33, second son of the late George Harris J.P., Tredegar, Mon.

HUTTON.—On Feb. 13th, at Carshalton Stapleton hall road, Stroud green N. Robert James Hutton Surgeon suddenly.

MARSHALL.—On Feb 4th at his residence Wallingford J. H. Marshall, M.R.C.S. aged 52.

WAGHORN.—On Feb. 10th, at Newport Surgeon Lieutenant-Colonel Henry Waghorn late Army Medical Staff aged 55.

WALFORD.—On Feb 9th, at Uppingham, Augustus David Ceely Walford M.R.C.S. L.S.A., aged 71 years.

N.B.—A fee of 6s. is charged for the insertion of Notices of Births, Marriages and Deaths.

PRESENTATION—On Tuesday, Feb 7th, Dr Fletcher Beach was presented by the officers, attendants and nurses of Darenth Asylum for Imbecile Children with a pair of handsome silver candelabra on his resigning the post of medical superintendent after eighteen years' service. He is succeeded by Dr Walmsley, late senior assistant medical officer of Leavesden Asylum.

LITERARY INTELLIGENCE—If wisdom fails to penetrate the civic understanding it will assuredly not be because of the absence of a multitude of counsellors. The cry is still they come. The radiance from a new guiding star is on the horizon—nay, it has verily risen. The first number of *London a Journal of Civic and Social Progress*, is already published. If the new journal carries out its programme and is successful in instilling its principles it will have accomplished a notable work.

LONDON FEVER HOSPITAL, LIVERPOOL-ROAD—At the annual meeting of this institution, held on Friday, Feb 10th, it was stated in the report that during the year 1892 there were 748 patients admitted into the hospital. The mortality was 1.9 per cent. The donations and subscriptions showed an increase of £1097 over that of 1891. Lord Balfour of Burleigh, who presided, said the cost of the year's work had been £9644, of which the patients had contributed £2692. An appeal was made for subscriptions to defray an estimated sum of £6000 required to provide further accommodation for the nurses.

PROVIDENT SURGICAL APPLIANCE SOCIETY—The twenty first annual dinner of this Society was held in London at the Hôtel Métropole on Monday, Feb 13th. Mr Arthur Stride, manager of the London, Tilbury and Southend Railway Company, who presided, directed attention to the way in which help was given by this Society. The Society gave help without regard to age, race or creed, it had no system of letters of introduction and it tried to give a maximum of aid with a minimum of trouble. During the past year it had relieved 6516 people. The subscriptions collected during the evening amounted to £1181.

ÆSCULAPIUS LODGE OF FREEMASONS, NO 2410—The ordinary meeting of this lodge was held at the Café Royal, Regent-street, on the 8th inst., when the W M (Deputy Inspector General Belgrave Ninnis, M D) presided, supported by the officers of the lodge and a number of brethren. After the minutes of the last meeting had been read and confirmed Bro Surgeon Captain R. Ashton Bostock, L R C P Lond, M R C S, was unanimously elected a joining member. Bro W Arbutnot Lane, M S Lond, F R C S Eng, was admitted to the third degree by the W M. The routine business of the lodge having been transacted and a number of letters of apology for non attendance on account of illness and professional duties on the part of absent members having been read by the secretary, the lodge was closed. The brethren afterwards dined together and spent a pleasant social evening, when the loyal and masonic toasts were duly honoured and suitably responded to.

NOTES IN PARLIAMENT

The Identification of Foreign Meat.

In addition to Mr George Lambert's Bill, to which reference was made last week, there is a measure on this subject presented for the acceptance of Parliament by Mr Coningsby Dismell. The two Bills are not unlike in their main features. They both provide for the labelling of the foreign meat and the distinguishing of shops where it is sold. Instead however, of making use of the local authority for purposes of registration, Mr Dismell proposes that all dealers in foreign or colonial meat shall take out a yearly licence from the Commissioners of Inland Revenue. He also invests Customs officers, medical officers of health, inspectors of nuisances and police constables with the powers of inspection authorised under the Sale of Food and Drugs Act of 1875, permitting them, however, to take samples of the meat without going through the form of purchase prescribed by that Act. Another point in Mr Dismell's Bill is that all foreign or colonial meat forwarded by public conveyance shall be labelled and consigned as such.

Pleuro-Pneumonia.

In anticipation of the debate next month on the subject of pleuro-pneumonia Dr Farquharson has given notice of an amendment to the

effect that any attempt to interfere permanently with the distribution of store cattle from abroad throughout the United Kingdom will seriously affect the interests of agriculture, more especially in Aberdeen shire, where cattle feeding is extensively and successfully carried on.

The Use of Hemp Drugs in India.

Mr Schwann, one of the representatives of Manchester, has given notice of the following motion for Friday, March 3rd, viz.—“That in the opinion of this House the growth, cultivation, and sale of bhang, ganja, charas and other preparations of hemp by the provincial governments of India produce much misery, poverty, insanity and moral deterioration among the people of India, and whereas similar results in Turkey, Egypt and Greece have led to the absolute prohibition in those countries of the manufacture and common sale of hemp drugs, it is desirable that the Secretary of State for India should order a commission of experts to inquire into and report upon the cultivation of, and trade in, all preparations of hemp drugs in Bengal, the effect of their consumption upon the people of that presidency, and the desirability of the prohibition of their sale, not less than one-half of such commission to be composed of non official natives of India.”

Sanitation in Schools.

In the House of Lords on the 10th inst. Lord Norton put a question as to the amount of school space required for sanitary purposes. Lord Kimberley explained that the object of the circular issued by the Vice President of the Council was to obtain precise information so that schools might be brought up gradually to a higher standard in respect of sanitary and other requirements. In the discussion which followed Lord Salisbury deprecated forcing upon school managers a new and costly system of arrangements of whatever kind.

Tuberculosis in Cattle.

In the House of Commons on the 10th inst. Mr Gardner, in reply to Mr Hozier, said he should be glad to take any steps which might be found to be practicable to minimize the extent to which tuberculosis prevails amongst cattle, but whilst the subject is engaging the attention of the Legislature it would be impossible to propose legislation of an expensive nature on the subject.

Irregular Death Certification.

In reference to an inquest recently reported, in which the certification of death was deferred for some days after the actual decease, Mr Asquith, in answer to a question put by Mr Maden, said the circumstances of the case were put before the Registrar General, who would no doubt take any proceedings which may be found to be necessary. Other irregularities, said the Home Secretary, would appear to have been disclosed in connexion with the case, and these would be reported to the Director of Public Prosecutions.

The Galway Hospital.

In answer to a question put by Mr Kenny respecting the amount of attendance at a hospital necessary to entitle a student of medicine to present himself for examination, Mr Morley stated that he had been officially informed that the Galway Hospital fulfils in every particular the requirements set forth in the regulations of the Royal University.

Ill-fed School Children.

Mr R. Wallace put a question on this subject, and elicited from Mr Acland a reply to the effect that from inquiries he had made he felt sure that a very large number of children attend school without having been supplied with a sufficient amount of food. He would, however, communicate with the managers of some of the largest schools in order to gain information on the matter.

The Poor Law Commission.

In the House of Commons on the 9th inst. Mr Fowler in reply to Mr Chamberlain and Mr Hozier said the system of Poor Law relief into which the Royal Commission is appointed to inquire is the system now in force in England and Wales, and to which alone the powers and duties of the Local Government Board extend. Scotland and Ireland have separate and different Poor Laws, with separate central authorities for their supervision.

Sanitary Authorities and Infectious Diseases.

Mr H. Fowler, in reply to Mr Johnson Ferguson, said he was unable to state the number of sanitary authorities who have made special provision for the accommodation of persons suffering from infectious diseases, but should be prepared to agree to a return on the subject if it be moved for.

Pleuro-pneumonia.

On the 14th inst. Mr Macartney asked the President of the Board of Agriculture if his attention had been called to a resolution passed at a meeting of the Royal Agricultural Society urging the slaughter of all foreign cattle landing in the United Kingdom at the port of debarkation. Mr Gardner said, though he had received a copy of that resolution he was unable to enter into any undertaking to introduce or support a measure to make such slaughter compulsory at the port of debarkation.

The Tuberculosis Commission.

In answer to a question by Mr Yerburgh Mr Gardner said frequent communication had been had with the Royal Commission with regard to the inclusion of tuberculosis in the Contagious Diseases (Animals) Act, and the Commission was extremely desirous to complete their work so far as is compatible with thorough scientific accuracy in respect of the questions committed to them.

Indian Opium.

Sir M J Stewart gave notice that on an early day he would move that a humble address be presented to Her Majesty to appoint a Royal Commission to inquire into the production, manufacture, and export of opium from India, and to move a resolution

direct it to be given in half ounce doses or just as he thinks proper. This mixture keeps good for some time and the patient can be placed under treatment without of necessity knowing that there is anything special about it as must be the case if portions of the gland either raw or partially cooked are given.—We have also received a letter from *Messrs Brady and Martin* of Newcastle-on-Tyne who describe the precautions they adopt to secure that the thyroids used are obtained from healthy animals and are themselves free from morbid changes. They do not agree with Dr Napier (Glasgow) as to the frequency with which "cysts" occur in the gland, which they place at about 2 per cent. In preparing the glands they are carefully sliced and examined, and if a "cyst" is found that lobe is rejected and the knife which has cut it is carefully cleaned and sterilised before it is used to cut another lobe. The lobes are then bruised in a mortar, and for each lobe there is added 1 c.c. of glycerine and 1 c.c. of a 0.5 per cent. of carbolic acid in boiled distilled water. The mixture is allowed to stand for twenty-four hours and squeezed through a cloth in a press to obtain as much liquid as possible. The product for each lobe was found by Dr George Murray in his first experiments to be about 8 c.c.

Mr John P. Henry—We have received several papers on the same subject as our correspondent's contribution, all of which, owing to the demands on our space, we are unable to publish in *extenso*. We propose, however, in an early issue to publish the important facts recorded by these contributors, together with such illustrations as may be required.

Mr William Muir—Our correspondent probably refers to a solution of nitrate of silver. The cloudiness it produces does not necessarily indicate animal matter however. It may be used to test the purity of distilled water, for almost all other waters contain chlorides.

Operator—We do not see that the cases are quite parallel or that medical men, as such, would be well suited for doing medical agency work.

ANCIENT MEDICAL BILL.

To the Editors of THE LANCET.

SIRS—Please insert the following copy of a portion of an apothecary's quarterly account for medicines supplied to Queen Elizabeth. The original is in Latin—

"*High Morgan, her Majesty's Apothecary asketh allowance for the medicines following—viz., for her Majesty's own person—from the 24th of June, 1588, being Mydsomer Day unto the 29th of September 1588, being Michaelmas Day, to be paid by the treasurer of her highness's Chamber. A confection made like a Mannus Christi (a tablet such is candied horehound is now made in) with bezar stone and unicorn's horn, by the Queen's order, for Mrs. Skipwith 11 shillings. A Royal sweetmeat with incised rhubarb by the Queen's order, for Mrs. Scudamore, 10 pence. Rose water for the King of Navarre's (afterwards Henry IV. of France) ambassador 12 pence. A conerve of barberries with preserved damascene plums and other things for Mr. Raleigh afterwards Sir Walter Raleigh, by the Queen's order 6 shillings. Sweet scent to be used at the christening of Sir Richard Knightly's son, 2 shillings and 6 pence."*

Gargles occur frequently and now and then hysteric and diuretic medicines. Articles of perfume are numerous especially *suffitus floriferi* and "*aqua rosarum*," which last seems to have been used abundantly in the Chapel Royal, chamber dressing room, supper room wardrobe, laundry and *pro domo* *Ridhercourt*." The amount appears by the receipt—

Received the 5th day of December 1583, of the Right Hon. Sir Thomas Heneage Knight Thre of her Majesty's chamber by force hereof lxxxij. s. vijs. viijd. [1583 7a. 8d.]

High Morgan Pharmacopoeus.

I am, Sirs yours faithfully

CHARLES WILLIAMS

Norwich, Feb 14th, 1893

THE SUNNY CORNERS OF HOMELAND

A COPY of a new Illustrated monthly venture with the above title, makes its appeal to our sympathies from our Library Table. There is no reason that we can see why such a publication as the one under notice should not occupy a place more or less useful in the series of periodical guide-books issued from time to time. We cannot say very much for the illustrations which are decidedly wanting in finish and pictorial effect. But the object aimed at—viz. to call increased attention to the attractions of our English health resorts as compared with those in foreign climes with their often in alabrious sanitary arrangements—cannot but have our commendation. The number contains a short article by Dr P. de Villiers on the advantages of Hastings as a temporary residence.

DENTISTRY IN FRANCE.

Alcedus asks—Can any of your readers inform me what facilities there are for studying dentistry in Paris or Montpellier or where definite information on the subject may be obtained?

A. F.—We are not aware of any suggested relationship between the two diseases named. All the larger text-books of medicine contain ample notice of them. For special details reference might be made to Dr Thib's work on Leprosy and to the Clinical Society's Report on Mischodema.

THE OFFICE OF CORONER.

AMONGST the questions of commanding interest in civilised and populous communities must be placed that of the complete and satisfactory method of ascertaining by judicial inquiry the cause of death in cases in which that event has been sudden or attended by circumstances of a suspicious character. Yet, important as it is the subject is one on which even in intelligent minds, much ignorance prevails. To diffuse information, therefore, on points in connexion with the working of the coroner's court has been the laudable object of Mr F. W. Lowndes M.R.C.S., by the publication of a pamphlet entitled "*Reasons why the Office of Coroner should be held by a Member of the Medical Profession.*" The arguments adduced in support of the contention suggested by the title are sustained by reference to the history of cases which at the time obtained world-wide celebrity. The brochure is deserving of a large circulation.

Messrs. Mauston, Sican and Weddel.—Fugenol acetamide does not, as far as we can learn, appear to be obtainable in London. The original notice of its action appeared in a German pharmaceutical journal, so that probably a German firm of chemists might be able to obtain it.

Mr William Robinson.—We cannot concur in the advice given to our correspondent's friend. He and his friends must contrive some more creditable way of finding the means to complete his medical studies.

LEGAL RESPONSIBILITY FOR ILLNESS CONTRACTED IN INSANITARY HOUSES

To the Editors of THE LANCET.

SIRS—In reply to Mr Smith's letter under this heading I beg to state that when a house is let furnished there is an implied warranty that it is fit for occupation (see *Wilson v. Finch Hatton Law Reports*, vol. ii. Exchequer Division 338, April, 1877), and if any injury or damage is suffered by the tenant, such injury or damage arising from any unfitness of the premises to be occupied (including illness caused by insanitary condition) then the tenant is entitled to compensation from the owner of the premises. I may add that, with certain exceptions no warranty is implied in the case of unfurnished houses.

I am, Sirs yours faithfully

HENRY A. JONES F.S.I. Special San. Sci. Cert.

Wellington street Strand, W.C. Feb. 8th 1893.

THE LOCUM TENENS AND INQUEST FEES

Enquirer—Such fees as all others, clearly belong to the principal and should be accounted for to him. It is perhaps charitable to suppose that the locum tenens regarded them as a perquisite, and there is something to be said for this view. But it is for the principal to take it and not the locum tenens, whose duty it is to report them and pay them to his principal on his return in the absence of any contract to the contrary.

Mr W. Sinclair Cameron.—Our correspondent has been treated inconsiderately. There is no virtue in acting so as to bring a good rule into disrepute. Our correspondent will be justified in claiming his usual fee. It will be time enough to strain a rule applying to medical men when the fee has been offered as it should have been offered in the first instance.

METEOROLOGICAL READINGS

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office Feb 16th, 1893.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radiation in Vacuum.	Maximum Temp. Shade.	Min. Temp.	Rain-fall.	Remarks at 8.30 a.m.
Feb 10	29.33	N.W.	45	43	80	53	40	14	Cloudy
" 11	29.05	N.W.	50	49	54	51	45	03	Overcast
" 12	29.63	N.W.	37	36	66	46	35	10	Cloudy
" 13	29.81	N.W.	38	37	63	49	36	04	Raining
" 14	29.87	N.W.	45	47	64	53	33	06	Raining
" 15	29.77	W.	42	41	55	1	40	10	Hazy
" 16	29.57	S.W.	47	46	55	50	42	01	Cloudy

During the week marked copies of the following newspapers have been received—*Smileu Mail Medical Record* (New York) *Macleanfield Advertiser* *Caribbean Times* *The Morning Mining Journal* *Mentelieu Times* *Staffordshire Evening Post* *Lincolnshire Gazette* *Lincolnshire Chronicle* *Tasmanian Mail* *Liverpool Courier* *Leicester Mercury* *South Wales Daily News* *Northern Echo* (Darlington) *Scarborough Evening News* *Shelds Daily Gazette* *Waterhampton Chronicle* *Bolton Evening News* *Sunder News* *Bombay Calcutta Pioneer* *Mail Times of India* *Yorkshire Post* *Liverpool Daily Post* *West Middlesex Standard* *1 ading Mercury* *Hertfordshire Mercury* *Weekly Free Press* and *Aberdeen Herald* *Leeds Mercury* *Bradford Mercury* *City Press* *Local Government Chronicle* *Surrey Advertiser* *Civil Hospital Gazette* *Local Government Journal* *London Manchester Examiner* *West Middlesex Advertiser* *Builder Architect* *Clerks* *Scotsman* *Sunday Times* *Linn News* *Sanitary Record* *Manchester Guardian* *North Star* (Darlington) *Tunbridge Wells Advertiser* *Scarborough Post* *Widener*

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Medical Diary for the ensuing Week.

Monday, February 20.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M., Fridays and Saturdays, at the same hour
 ST BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M., and on Tuesday, Wednesday, Friday, and Saturday at the same hour
 ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, daily at 10 A.M.
 ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour
 CHELSEA HOSPITAL FOR WOMEN.—Operations 2 P.M., Thursday, 2 P.M.
 HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour
 METROPOLITAN FREE HOSPITAL.—Operations 2 P.M.
 ROYAL ORTHOPEDIC HOSPITAL.—Operations, 2 P.M.
 CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour
 UNIVERSITY COLLEGE HOSPITAL.—Ear and Throat Department, 9 A.M., Thursday, 9 A.M. Eye Department, 2 P.M.
 LONDON POST-GRADUATE COURSE.—Royal London Ophthalmic Hospital 1 P.M., Mr W Lang Diseases of Cornea.—101, Gt. Russell st. 8 P.M., Dr Galloway Lesions of the Genito-Urinary Tract.—Parkes Museum (Margaret-st. W.) 3.30 P.M. Dr Parkes Dwelling Houses
 CENTRAL LONDON THROAT AND EAR HOSPITAL.—5 P.M. Mr Lennox Browne Benign and Malignant Disease of the Faucial Tonsils (Post-graduate Lecture).
 THROAT HOSPITAL (Golden sq.).—5 P.M. Dr J W Bond External Operations on the Larynx.
 MEDICAL SOCIETY OF LONDON.—8.30 P.M. Dr Ralfe Some Clinical Features of Chronic Albuminuria.

Tuesday, February 21.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at the same hour
 Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.
 ST THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M., Friday, 2 P.M.
 ST MARK'S HOSPITAL.—Operations 2 P.M.
 CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M., Saturday, 2 P.M.
 WESTMINSTER HOSPITAL.—Operations, 2 P.M.
 WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
 UNIVERSITY COLLEGE HOSPITAL.—Skin Department, 1.45 Saturday, 9.15.
 ST MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electrotherapeutics, same day, 2 P.M.
 ROYAL INSTITUTION.—3 P.M. Prof V Horsley The Brain.
 LONDON POST-GRADUATE COURSE.—Hospital for Skin Diseases, Blackfriars 4 P.M., Dr Payne Alopecia, its Varieties.—Bethlem Hospital 2 P.M., Dr T Hyslop General Paralysis of the Insane.—101, Great Russell st. 8 P.M., Dr Handfield Jones Polypl.
 PATHOLOGICAL SOCIETY OF LONDON.—Mr J Jackson Clarke A Critical Survey of Recent Work bearing on the Pathology of Cancer and Sarcoma. Observations on the same subject by Dr Ruffer, Dr Woodhead and Dr James Galloway
 ROYAL COLLEGE OF PHYSICIANS (Theatre of the Laboratories Examination Hall, Victoria Embankment).—5 P.M. Dr B A Whitelegge Changes of Type in Epidemic Disease (Murray Lecture)
 LONDON SKIN HOSPITAL (40, Fitzroy sq. W.).—8 P.M. Mr James Startin Ringworm and Alopecia.

Wednesday, February 22.

NATIONAL ORTHOPEDIC HOSPITAL.—Operations, 10 A.M.
 MIDDLESEX HOSPITAL.—Operations, 1.30 P.M., Saturdays, 2 P.M. Obstetrical Operations, Thursdays, 2 P.M.
 CHARING-CROSS HOSPITAL.—Operations, 3 P.M., and on Thursday and Friday at the same hour
 ST THOMAS'S HOSPITAL.—Operations, 1.30 P.M., Saturday same hour
 LONDON HOSPITAL.—Operations, 2 P.M., Thursday and Saturday, same hour
 ST PETER'S HOSPITAL, COVENT-GARDEN.—Operations 2 P.M.
 SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.
 GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
 UNIVERSITY COLLEGE HOSPITAL.—Operations, 1.30 P.M. Dental Department, 9.30 A.M. Eye Department, 2 P.M.
 ROYAL FREE HOSPITAL.—Operations 2 P.M. and on Saturday
 CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.
 LONDON POST-GRADUATE COURSE.—Hospital for Consumption, Brompton 4 P.M., Dr R. Maguire Sputum.—Royal London Ophthalmic Hospital 8 P.M. Mr A. S. Morton Ocular Paralysis.
 THROAT HOSPITAL (Golden sq.).—5 P.M. Mr T Mark Howell Affections of the External Meatus
 HUNTERIAN SOCIETY.—Mr Walter Rivington Certain Branches of Operative Surgery (Second Hunterian Society Lecture).

Thursday, February 23.

ST GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday 1.30 P.M. Ophthalmic Operations Friday 1.30 P.M.
 UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M. Ear and Throat Department, 9 A.M. Eye Department, 2 P.M.
 LONDON POST-GRADUATE COURSE.—Hospital for Sick Children Great Ormond st. 4 P.M., Mr W A Lane Acquired Deformities.—National Hospital for the Paralyzed and Epileptic 2 P.M., Dr Tooth Paraplegia.—London Throat Hospital (Gt. Portland-st.) 8 P.M. Dr Whistler Syphilis of the Throat and Nose.—Central London Sick Asylum 5.30 P.M. Dr Bristowe Cases in the Wards.
 CENTRAL LONDON THROAT AND EAR HOSPITAL.—5 P.M. Dr Dundas Grant Diseases of the Larynx.
 ROYAL COLLEGE OF PHYSICIANS (Theatre of the Laboratories, Examination Hall, Victoria Embankment).—5 P.M. Dr B A Whitelegge Changes of Type in Epidemic Disease (Murray Lecture)

Friday, February 24.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
 UNIVERSITY COLLEGE HOSPITAL.—Eye Department, 2 P.M.
 LONDON POST-GRADUATE COURSE.—Hospital for Consumption, Brompton 4 P.M., Dr R. Maguire Sputum.—Bacteriological Laboratory King's College 11 A.M. to 1 P.M., Prof Crookshank Leprosy and Glanders (Sections).
 CANCER HOSPITAL (Fulham road, S.W.).—4 P.M. Dr F A Purcell Cancer of the Rectum.
 UNIVERSITY COLLEGE CHEMICAL AND PHYSICAL SOCIETY.—3 P.M. Annual Public Meeting Prof Watson Smith Diseases Incident to Workpeople in Chemical and other Industries. Exhibition of Apparatus.
 CLINICAL SOCIETY OF LONDON.—8.30 P.M. Living Specimens at 8 P.M.—Dr Hector Mackenzie A case of Myxedema cured by Thyroid Gland Feeding.—Mr Betham Robinson Two cases of Congenital Luxation of the Head of the Humerus.—Dr Newton Pitt A case of Peripheral Asphyxia, Rheumatic Arthritis, and Extensive Deposit of Fibroid Nodules. And others Papers at 9 P.M.—Mr W Arbuthnot Lane Cases illustrating a New Operation or Dorsal Dislocation of the Head of the Femur, and some points in his Surgery of the Hip-joint.—Mr C. B. Lockwood Sequel to a case of Excision of the Head of the Femur and Erosion of the Hip-joint through the Anterior Incision, and with immediate and permanent Closure of the Wound.—Mr G H Makins A Note on the Prognosis of Sacro-Ilac Diseases, with three illustrative cases.—Mr Raymond Johnson A case of Lymphosarcoma of Tonsil Removed by External Incision with Preliminary Ligation of External Carotid Artery

Saturday, February 25.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and Skin Department 9.15 A.M.
 LONDON POST-GRADUATE COURSE.—Bethlem Hospital 11 A.M., Dr H. Corner Alcoholic Insanity

Notes, Short Comments & Answers to Correspondents.

EDITORIAL NOTICE

It is most important that communications relating to the Editorial business of THE LANCET should be addressed exclusively "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office

Lectures, original articles, and reports should be written on one side only of the paper

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners. Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET should be addressed "To the Publisher."

We cannot undertake to return MSS. not used

PUBLISHER'S NOTICE

IN order to facilitate the work of reference to the volumes of THE LANCET, we have arranged in the future to publish duplicate copies of the Index to each half yearly volume in a form in which they may be subsequently filed or bound together

We have had a large number of duplicate copies of the Index to the last half yearly volume printed, and those of our subscribers who may wish to be supplied with loose copies can obtain the same (without extra charge) on making application to the Publisher of THE LANCET

THE THYROID GLAND IN PHARMACY

IN connexion with the subject of the treatment of myxedema by means of preparations of the thyroid gland, Mr C B Allen of Kilburn writes—"It is quite an easy matter to prepare an ordinary mixture from the thyroid gland by selecting say twenty healthy lobes, carefully mincing and macerating them for twelve hours with two ounces and a half of a mixture of equal parts of glycerine and water, then adding ten ounces of chloroform water, frequently agitating for six hours longer filtering through paper, washing the mass with chloroform water till eighteen ounces have been obtained and adding to this ten drachms of tincture of orange and making up to one pint. Each ounce of this mixture contains the active principle of one lobe and the physician can

Communications, Letters &c have been received from—

- A—Dr J T Arlidge, Hanley, Dr F P Atkinson, Surbiton, Messrs Allen and Hanbury, London, Messrs. Andrews, Son and Co, London.
- B—Mr G Shorman Bagg, London, Mr E Burgess, Norfolk, Mr C Birchall, Liverpool, Messrs Bruce and Co, London, Messrs Brady and Martin, Newcastle on Tyne, Messrs Burroughs, Wollcome and Co, London, Messrs Borries, Craig & Co, Newcastle-on Tyne.
- C—Dr Frank Cismow, London, Mr Sinclair Cameron, London, Mr C Clark, Wolverhampton, Mr H H Clifton, London, Mr F H Cooke, Tolleshunt D'Arcy, Messrs Clark Son and Platt, London, Messrs Christy and Co, London, Messrs Cassell and Co, London, College of State Medicine, London, O W H, Ashford, Colonist, London, City Press Agency, London, County Asylum, Prestwich.
- D—Sir W B Dalby, London, Dr Thomas Dutton, London, Messrs. Debenham and Co, Champside.
- E—Dr W Gilmore Ellis, Singapore, Enquirer.
- F—Dr Hingston Fox, London, Mr H C Fife, Kensington, Mr A K. Frost, Hereford, Mr C Fox, Somerset, Mr A Ferris, London.
- G—Dr James Galloway, London, Dr G M Gould, Philadelphia, Dr Gaskell, London, Mr Chas Gooding, London, Mr A Pearce Gould, London, Mr T W Graves, Knighton, Mr Gray, Putney, Messrs Griffith, Farran and Co, London.
- H—Dr H E Harris, East Dulwich Grove, Mr R. G Hicks, Ramsgate, Mr A Hosking, Edinburgh, Dr John P Henry, Lewisham, Mr F G Hallett, London, Mr Joseph Hadley, London, Mr W Hornbrook, London, Mr J Heywood, Manchester, Messrs. Hertz and Collingwood, Messrs Hadden and Co, London, H O, Bristol.
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- J—Dr M Johnston, Annandale, Dr Macnaughton Jones, London, Messrs J Jones and Sons, Woodford.
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- L—Dr P W Latham, Cambridge, Mr A P Luff, London, Messrs Lee and Nightingale, Liverpool, Messrs Loubasher and Co, Milwaukee, U.S.A., London Skin Hospital, L.M., London, London Port Sanitary Authority, London University, La Clinica Chirurgica, Milan.
- M—Dr Patrick Manson, London, Mr Howard Marsh, London, Dr J L Maxwell, Highbury, Mr Gordon Miller, Lewisham, Mr G H Makins, London, Messrs. Mawson Swan and Weddell, Newcastle-on Tyne, Maline Co, Bloomsbury.
- N—Mr R. G Naylor, Audlem, Messrs. Newbury and Sons, London.
- O—Oldham Infirmary.
- P—Dr C. Porter, Stockport, Dr Urban Pritchard, London, Mr Perry, Stratton, Mr J H Pink, London, Mrs H E Parolito, Clifton, Purchaser, London.
- R—Sir Win Roberts, London, Dr J M Ryan, Colchester, Mr Wm Robinson, Westmoreland, Mr R. P Ryan, Thorpe, Mr Felkin Roth, London, Mr Nathaniel S Rosoman, Chicago, Surz Capt. H D Rowan, Bradford, Mr R. H Rowell, Houghton-le-Spring.
- S—Dr Somen, London, Dr Shaw, London, Dr A. Saumonier, Paris, Mr Francis A. Stringer, London, Mr W D Sovern, London, Mr H Sell, London, Mr J Sampson, York, Canon Scott, Leeds, Mr Smith, Northampton, Mr T Smith, London, Mr B. Smith, Westgate-on-Sea, Messrs Street Bros, London, Messrs Smith, Elder and Co, London, Messrs W H Smith and Son, Manchester, Society of Public Analysts, London, Stroutium, London, Sheppey Union.
- T—Mr Lawson Tait, Birmingham, Dr James Taylor, London, Mr Morris W Travers, London.
- U—Ultum, London.
- W—Dr Hugh Woods, Highbury, Dr Arthur Whitelegge, Wake.
- X—Mr X., Manchester.
- Y—Mr Y. Zeichau, Luxor.
- Z—Mr Z. Zeichau, Luxor.

Letters, each with enclosure, are also acknowledged from—

- A—Mr W Anderson Carmarthen, A. M. L., London, A. W., London, Alameda London.
- B—Dr E Blake, Hyde-park, Dr E Beck, Ravenstonedale, Mr Branch, Bath, Mr J J Burgess, Attleboro, Mr W F Brook, Swansea, Mr J H Breach, Newbury, Mr N M Byrn, York, Mr W J Butler Castle Donnington, Mr H R. Bigg, London, Mr Baker, Newcastle-on Tyne, Messrs J L Bullock and Co, London, Boaz, West Drayton.
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- S—Dr E. Stechan, Ulverston, F P Smith, Walworth, Scotland, Twickenham, S. Hales Daily Star, Newport, S.
- T—Mr H H Tidswell, field, Mr J. Thin, F. Mr J T Thomas, Newport, Mrs Tyte, Minchinhampton.
- U—Unam, London.
- V—Mr Van Praagh, London, W. Venis, Bonares, Messrs. Houton and Zoon, Wesp, Victoria Hospital, Folkestone, V. cine Lymph Association.
- W—Dr Weatherbe, With Mr T H Waller, Mr H Weekes, Chatham, O G Webster, Hastings, T Woodman, Bridgewater, Walford, Uppingham, W J London, W., London.
- X—Y Z., Bayswater, X. N. Kensington.
- Y—Mr A P Yonlo, Yorks, London.

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Agent for the Advertisement Department in France—J. ASTIER, 64, Rue Cammartin, Paris.

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NOTICE.—Advertisers are requested to observe that it is contrary to the Postal Regulations to receive at Post Offices letters addressed initials only

ABSTRACT OF

The Goulstonian Lectures

ON THE

CHEMICAL PHYSIOLOGY OF THE ANIMAL CELL

Delivered at the Royal College of Physicians on Tuesday March 7th,

By W D HALLIBURTON, M.D.,
FRCP LOND, FRS,

PROFESSOR OF PHYSIOLOGY KING'S COLLEGE, LONDON

LECTURE I.

THE MICRO-CHEMISTRY OF THE CELL.

[In his preliminary remarks Dr Halliburton thanked the College for the honour conferred on him, spoke of the important influence of the cell theory in all branches of science and alluded to the difficulties attending chemical investigations on living things. He further announced that the three lectures he had to give would deal with (1) the micro-chemistry of the cell, (2) the proteid constituents of the nucleus and cell protoplasm, and (3) the coagulation of the blood. He then proceeded as follows.]

The earlier observers on the animal cell, following the lead of the botanists described a cell wall as one of its necessary constituents. We now know that a cell wall is an exception rather than the rule, and our definition of the animal cell is that of a mass of living substance or protoplasm containing a nucleus in its interior. To this we must now add at least for some cells that another body called the "attraction sphere" by van Beneden is also present. This attraction sphere becomes intermingled with the nucleus during the progress of cell division, and no doubt it is this body rather than the nucleus that takes the lead in the division of a cell into two. The nucleoli are believed to be collections of reserve material which enter into solution when cell division commences and perhaps contribute to the formation of the thread like structures into which the substance of the nucleus is resolved. There can also be little doubt that the nucleus exercises a controlling influence on the nutrition of the cell. By certain fluids a vegetable cell can be broken up or plasmolysed into separate little masses of protoplasm. Those fragments which are without a nucleus are no longer able to form starch.

Passing now to the functions of the cell as a whole, we find a great contrast between those exercised by the single cell of the unicellular organism and the many cells of the multicellular animal. To the anatomist the single egg cell or the amoeba is an extremely simple object. To the physiologist, on the other hand, simplicity of structure means an increased difficulty in understanding function. In the higher animals certain cells are set apart specially to perform one function, certain other cells to perform another, some, for instance, are concerned in muscular contraction, others in elaborating secretions, others in reproduction and so forth. But in such an animal as the amoeba all these functions—movement, secretion, digestion, excretion and multiplication—are performed by one cell. In the higher animals the various functions are unravelled from each other, but in the amoeba, looking at its apparently simple structure, it is difficult to realise the potentialities of and the variety of functions inextricably blended in, the little mass of living jelly. Whilst a cell is alive it is always undergoing certain chemical changes. It is in a state of unstable chemical equilibrium. The series of changes beginning with assimilation and ending with excretion is what is known as metabolism, and adopting Gaskell's nomenclature, constructive metabolism may be termed 'anabolism,' and destructive metabolism 'katabolism.' Microscopic investigation has shown us that protoplasm itself is not homogeneous it is not even merely loaded with granules but pervading it is a network of irregular arrangement in such an undifferentiated cell as the white blood-corpuscle, and regular arrangement in such cells as muscular fibres where the movement is limited to one direction. Different histologists have given different names to these two portions of protoplasm. The most convenient names are those introduced by

Schäfer he calls the spongework of fibrils "spongioplasm," and the more fluid homogeneous part which flows in or out of the spongioplasm 'hyaloplasm.' Carnoy believes that the reticulum itself consists of a material called "plastin," a substance the nature of which we shall have to inquire into later on. In addition to this there are the granules embedded in the protoplasm which stain differently with different reagents, and in some cells there are vacuoles or spaces filled with a watery albuminous fluid, sometimes acid and sometimes alkaline. The contents of granules and vacuoles are termed "paraplasm." It will be convenient to take the contents of the vacuoles first. In unicellular organisms, like the amoeba, solid particles when ingested are surrounded with fluid, this fluid appears to play the role of a digestant poured out by the animal in its attempts to dissolve the solid particles. Other vacuoles, such as the contractile vacuole of the amoeba, are excretory. We next ask, What is the composition of the granules that pervade the protoplasm? These are sometimes of a fatty nature and are well seen in the leucocytes after a diet containing fat, they stain black with osmic acid. Sometimes, especially after a carbohydrate diet, and particularly in liver cells they are composed of glycogen and stain brown with iodine in some unicellular animals they appear to be of an inorganic nature, but by far the most constant granules are those which, like the rest of the protoplasm, are albuminous or proteid in character. The behaviour of these to stains shows that these again may be subdivided into various classes. Proteid, in fact, constitutes the main bulk of the solid matter in all living parts of organisms, animal and vegetable. The proteids obtainable fall into two chief groups the globulins and the nucleo-albumins. The characters of the individual members of these groups I shall take up in my next lecture. But other substances besides proteid are obtainable from cells. Of these the most constant are *lecithin* a phosphorised fat, *cholererin*, a monatomic alcohol, and a small percentage of inorganic matter in which calcium, magnesium and the alkaline metals are combined with phosphoric acid and chlorine to form phosphates and chlorides respectively.

Our next consideration is a more profound one, and that is In what condition are these substances present in the cell? Are they separate, merely in a state of chemical admixture, or are they combined one with another? Here we enter the realm of uncertainty. We can only say that the almost constant association of proteid with lecithin suggests something more than mere admixture and that the difficulty of separating proteid from inorganic salts, especially from calcium, indicates very forcibly that they are combined together. In addition to this, however there are very strong indications that the proteid of a living cell is in a different condition from the proteid of a dead cell. The distinction between living and non living proteid was first suggested by Rudolphi in 1821 and emphasised by John Fletcher in 1837, but it was not until 1875 that an intelligible theory to explain such difference was advanced by Pflüger. The non-living proteids, such as are contained in white of egg are stable and indifferent to neutral oxygen but when these proteids are assimilated—that is become part of a living cell—the molecules of proteid live by breathing oxygen—not necessarily oxygen from without, as frogs kept in chambers free from oxygen will continue to live for many hours and give off carbonic acid formed from the oxygen stored in the tissues. The assimilation of a proteid is probably due to the formation of ether like combinations between the molecules of living proteid and the isomeric molecules of the food proteid, water being eliminated, this process of polymerism producing large and heavy but still simple, molecules. In this process the nitrogen of the non living proteid leaves the hydrogen with which it is combined in the form of amidogen (NH_2) and enters into combination with carbon to form the more unstable substance cyanogen (CN). We thus find ureic acid, creatin, guanin &c. as products of proteid metabolism, whilst none of such cyanogen-containing bodies are obtainable from non living proteids.

Leaving this question for a time and passing to other methods of research, the inquirer should next ask the chemical meaning of the staining produced by the pigments used in histological investigation. Staining reagents are primarily employed to bring out structure, the cells as they occur in nature are too transparent to allow of a thorough investigation of their contents. They must be fixed by such reagents as osmic acid, that produce as little change as possible in their appearance and their structure can be

revealed by the subsequent use of pigments, because certain of their parts are more deeply stained than others, the nucleus, as a rule, standing out conspicuously. It cannot be doubted that this is due to differences in their chemical composition.

The histologist's staining reagents fall into two main groups—1. *Metallic compounds*, such as silver nitrate, gold chloride and osmic acid. In this case the staining is produced by the reduction by the tissue of the compound and the deposition of the metal in the situation where the reduction has occurred. 2. *Dyes*, such as logwood, carmine &c. Our chemical knowledge of many of these stains is not very great, but there is a considerable amount of chemical knowledge concerning one important class of dyes—namely, those known as the aniline dyes. The methods of using these reagents are two in number—some are applied directly to the preserved tissue, or, it may be, to the fresh tissue just removed from the body, whilst in other cases the pigment is injected into the circulation and its effects observed when the animal is subsequently killed. Both methods have yielded valuable results.

[The lecturer then gave several instances in illustration.] Ehrlich's experiments with methylene blue and similar pigments have greatly assisted our understanding of oxidation processes in different tissues. If a saturated solution of methylene blue is injected into the circulation of a living animal, and the animal killed a few minutes later, it is found on opening the body that most of the organs present their natural colour, although the blood is dark blue. On exposure to the oxygen of the air all the organs in time become blue. The avidity of the tissues for oxygen has been so great that they have been able to decompose the methylene blue molecule, forming a colourless reduction product which on exposure to the air takes up oxygen and becomes blue again. From such an experiment one can understand the power of the tissues in the reduction of oxyhæmoglobin, and moreover the fact that the different tissues vary in tint in the methylene blue experiments enables us to localise those situations where reduction is most actively carried on. There appears to be a great future in the place that aniline dyes will occupy in elucidating physiological and pathological problems. Dr. Sheridan Delépine divided aniline dyes into two classes, acid fuchsin may be taken as a type of the first, basic fuchsin of the second. The first class stains deeply the most differentiated, the second the least differentiated portions of cells. In a drop of blood the red corpuscles are most deeply stained by acid fuchsin, the leucocytes being but faintly stained, whilst the nuclei are not stained at all. If basic fuchsin is used the nuclei are stained most deeply, the protoplasm of the leucocytes to a less extent, and the red corpuscles least of all.

[The lecturer then proceeded to give a more detailed summary of Ehrlich's discoveries, and continued.]

But my chief object in dwelling on these so long is to clear the way for the subject I propose to treat in the third lecture, the coagulation of the blood, as the behaviour of the white corpuscles in that process lies at the very root of the matter. I next propose to sketch two other lines of research with their results, in which micro chemistry has played a conspicuous part. I refer to the detection of iron and phosphorus in the cells. Hæmoglobin has long been known as a proteid like substance which differs from other proteids in containing iron. It is undoubtedly the principal iron containing constituent of the body. In recent years other iron holding compounds have been found in cells, and these appear to be either forerunners of hæmoglobin or the result of its disintegration. This subject has been taken up by Quincke, Zaleski and Bunge on the continent, by Drs. Mott and Hunter in this country, and by Macallum in Canada. Without treating the subject in the chronological order of discovery we may take Bunge's work as a very convenient starting point. He found in the yolk of the hen's egg a proteid like substance which, like the chief chemical constituent of cell nuclei, contains a high percentage of phosphorus. It is, in fact, a nuclein, but more than that, for its molecule contains iron in addition. From the very reasonable supposition that this material is the mother substance of the blood pigment Bunge named it "hæmatogen." Hæmatogen is also found in milk in small quantities and can be further separated from many vegetable tissues which are used as food. The resemblance to the nuclein of cell nuclei suggested that perchance the nuclei also contain iron, and this question was taken up by Macallum. Although probabilities pointed to the nuclei as the situation where the iron occurs, the chain of evidence was not complete until the micro chemical methods next to be mentioned actually demonstrated its presence there, and it is to

Quincke, Zaleski and Macallum that we owe these methods. Zaleski recommends the blue or green colour produced with potassium ferro or ferri cyanide and hydrochloric acid. Macallum, using alcohol hardened tissues, soaked them for varying periods in ammonium sulphide solution, and found that the nuclei were coloured greenish, this after some weeks became a rusty brown, owing to the formation of ferric oxide. This was true for all cells examined, including those in situations like epithelium and cartilage, where there could have been no possible contamination with hæmoglobin. The fact that the chromatin masses in the cells during their transference to the fœtus from the placenta also give similar reactions is another proof that this is the method by which the fœtus receives its supply of iron, and, further, the nuclei of vegetable cells do not differ from animal cells in the presence of iron within them.

Passing now to the other side of the problem, from the forerunners of hæmoglobin to the products of its disintegration, we find that the liver has been the chief field where investigators have by similar methods advanced our knowledge. There are certain conditions in which the destruction of portal blood can be experimentally increased, as by the administration of the drug toluyldiamine (Engel, Kiener, Hunter), the importance of this experiment arises from the similarity between the effects observed and those found in nature's experiment, the disease of pernicious anemia. In these conditions of excessive blood destruction chemical analysis reveals increased accumulation of the iron in the liver and in some cases in the spleen, also chemico histological research shows the portal zones of the liver lobules to be crowded with albumino ferruginous granules, and clinical observation harmonises with the foregoing in the increased colouration noted in the urine produced by urobilin, an iron free constituent of the blood pigment (Mott). The liver, however, is not merely the seat of blood destruction, but it is also the seat of, at any rate, the beginning of hæmoglobin formation. Bunge has demonstrated most conclusively that iron is present in greater proportions in the livers of new born animals than in older ones, it thus acts as a storehouse of iron subsequently used in the formation of red corpuscles, and Delépine believes that this function persists throughout life. Iron, so far as our bodies are concerned, is a very precious metal, the intake is usually small, as also is the output. There are other practical aspects of this iron question which, when speaking to physicians, I feel bound to notice in passing. First, in relation to diet, especially of young children, it is important that these should have, after a certain time, food which contains a proper proportion of the hæmatogenous constituent. The formation of blood, as of the other tissues, is at this time much more active than at later periods in life. Experiments on animals show that they rapidly become anæmic and waste when deprived of hæmatogen, even though inorganic compounds of iron are given instead. They enter the world with a store of iron in their livers—an extra supply derived from the maternal tissues—to set them up for the first few weeks or months. They can therefore, live for this time and thrive perfectly well on milk, poor though it is in hæmatogen, but after this time—a time which varies in different animals—it is a necessity that further hæmatogen should be administered. It may be given in various forms for there appear to be many varieties of hæmatogen, and in animals this is usually obtained from vegetable food. There is no doubt that the anemia which is seen in children who are weaned late is in part the result of this poorness of milk in hæmatogen. This leads me to speak in the next place of the administration of iron medicinally. The quantity of iron in the whole body is only three grammes, and this amount is taken many times over during treatment. Bunge explains the usefulness of iron in chlorosis by its forming iron sulphide in the intestines, removing in this way excess of sulphur from the body, in chlorosis there are excessive fermentation processes in the alimentary canal and large quantities of sulphuretted hydrogen are formed, which destroy the organic compounds of iron that form hæmoglobin, the administration of iron thus prevents this destruction of hæmatogen. I cannot but think that this explanation, though accounting for the facts in part, does not contain the whole truth. As Landwehr points out, it hardly explains the limitation of the disease to the females and the period of early adolescence. Landwehr's own explanation, in which the substance he discovered and named "animal gum" plays a conspicuous part (and according to him does so in most physiological processes), is certainly not so feasible as Bunge's and thus it becomes of great scientific importance that the truth of the hypothesis

should be put to the test of experiment. This has already been done in a few cases by Dr Hale White. He has treated cases of chlorosis with hydrochloric acid, a substance which undoubtedly lessens putrefactive processes, but although the patients improved somewhat they did not mend any more rapidly than others who were simply treated with rest in bed and wholesome food. Dr Mott suggested to me that attempts should be made with bismuth, this, like iron, forms an insoluble sulphide and, if Bunge's theory is true, ought to be as beneficial in anæmia as iron itself. I am not aware that this has yet been done.

But I must now leave the question of iron and pass on to the other element with the micro chemical detection of which we have to deal—namely, phosphorus. As has been already mentioned, it is in the nucleus that the most important of these phosphorised proteid like substances chiefly occur.

[The lecturer then gave details of the histology of the nucleus, and continued.]

Histology teaches us the complicated nature of the nuclear structures, the various names of the materials found were originally given from their microscopic appearances rather than from their chemical properties. The method of gastric digestion enables us to obtain nuclein in large quantities because the rest of the cell is dissolved. Nuclein is, in fact, a substance of which there is a considerable amount of accurate chemical knowledge. But there is another micro chemical method which promises to be of as great value as that of gastric digestion, and it is to this that I have been leading up. It has only been quite recently introduced, and its object is the microscopic localisation of phosphorus. Lillenfeld and Monti¹ are the workers to whom we owe the method, and it consists in taking sections or teased portions of fresh tissues and organs and soaking them in a solution of ammonium molybdate. If phosphorus is abundant and present in the form of simple compounds like phosphates, the yellow colour of the preparations is visible to the naked eye within a few minutes, whereas, if the phosphorus is present in a more complex union the time required is longer and the microscope may be necessary to detect the yellow colouration. After this the sections are transferred to a 20 per cent. solution of pyrogallol dissolved either in water, or, which is better, in ether. The sections are dehydrated, clarified, and mounted in Canada balsam. The action of the pyrogallol is to reduce the phospho-molybdate, and the resulting colouration is brown or black according to its intensity.

[Lillenfeld and Monti's chief results were then summarised. Amongst other instances, the lecturer remarked.]

In nervous tissues, as one would expect from the nobly phosphorised nature of their constituents the staining was very intense, and in nerve cells the cell protoplasm was stained even more deeply than their nuclei. In conclusion, let me, in a few general terms, sum up what I have been saying. We have followed a number of divergent lines, all, however, starting with the cell, and all further connected by the link of micro-chemical investigation, but they have led us here and there into digressions in which the cell as such, has been left far behind. Let me now proceed to gather up these scattered strands. We have seen that, in order to obtain a chemical knowledge of the cell, it is necessary to have, in the first place, an accurate knowledge of its anatomy, but that the histological methods of staining and so forth depend on a chemical basis. The main substance of the cell is proteid, and this proteid when in the living cell is intramolecularly different from that in non living protoplasm. In addition, there are smaller quantities of lecithin, cholesterol, and inorganic salts. As the result of their vital activity cells form various products, some of these, like carbonic acid and urea, are the result of oxidation, and these products of destructive metabolism leave the cell and are ultimately got rid of by the excretory organs. Others like glycogen and fat, may be for a time stored up in the protoplasm, and it has long been known that these can be detected by the use of iodine and osmic acid respectively. More recent micro chemical methods have taught us that the important elements iron and phosphorus can be also localised in the cell or in its nucleus and on account of the newness of these investigations I have dealt with them at considerable length, pointing out on the way, what I conceive to be some of the practical bearings of the results of such inquiries. But in addition to such facts there are others concerning which the present state of our knowledge does

not allow us to pronounce positive chemical opinions, and here I would again allude to the important work of Ehrlich on the behaviour of protoplasmic granules to the aniline dyes. The fact that these dyes are, some acid, some alkaline, and some neutral, would seem to indicate corresponding differences in the reaction of the granules themselves. The reaction of living protoplasm as a whole is alkaline, but there are various acid products formed as the result of protoplasmic activity, such as carbonic acid, lactic acid, uric acid, and in one well-marked case that of the gastric cell, hydrochloric acid. It appears to me more than probable that during life the reaction of the protoplasm or of parts of the protoplasm is a changing one, the reaction may be in an unstable condition of equilibrium as the other factors of cell life are. We know that when the circulation ceases and the cells can no longer build themselves up from new material, but are still sufficiently living to continue their retrogressive or katabolic changes, they become acid from the accumulation of such substances as lactic acid or from the formation of acid phosphates. This tendency to become acid is being constantly corrected by anabolic or assimilative changes during healthy cell life, and it seems quite possible that in Ehrlich's staining processes we have an actual proof of this condition of unstable chemical reaction, this appears to be very strikingly confirmed by a recent experiment of Hardy and Kanthack,² who found that eosinophile cells after feeding on bacteria become amphophile. But, leaving such speculative propositions and coming to our positive knowledge, none can deny the enormous impetus that has been given to chemical physiology by the combination of the use of the microscope with that of chemical reactions. Valuable as micro-chemistry is, however, as a means of research it cannot go very deeply into the matter, and happily we can supplement the knowledge so obtained by the methods of macro-chemistry. We have already made the acquaintance of nuclein, the chief material in the nucleus, and of the various proteids contained in the cell protoplasm, and it will be my duty in my next lecture to develop this aspect of the subject more fully.

The Milroy Lectures

ON

CHANGES OF TYPE IN EPIDEMIC DISEASES.

LECTURE III

Delivered at the Examination Hall, Victoria Embankment on Feb 28th, 1893

By B A WHITELEGGE, M D, B Sc LOND

Prevalence determined by External Conditions — Not accompanied by Change of Type — All Epidemics — Water Epidemics — Seasonal Prevalence — Accumulation of Susceptible Persons

MR PRESIDENT AND GENTLEMEN,—Although change of type is an important factor in determining the fluctuations in prevalence of epidemic diseases, it is not the only factor. Wide diffusion may take place without increased severity and, indeed, it is not an uncommon experience to find that sudden epidemic extension is accompanied by apparent lessening of average severity and lowering of the case mortality. This involves no real exception to the general rule that the tendency to epidemic diffusion is greatest when the intensity is at its maximum. There are obviously three principal classes of conditions upon which epidemic prevalence depends. (1) The energy of the contagium itself, its power of withstanding hostile influences and of overcoming resistance, (2) the facilities for transmission of infection to susceptible persons, (3) the susceptibility of the individuals upon whom the contagium is to be grafted. The conditions which come under the second head include the varying degrees of proximity, from the closest contact to complete isolation, atmospheric states favourable or unfavourable to diffusion, and transmission by other media, such as water or milk. These are constantly changing, and, however orderly the rise and fall of intensity may be, the prevalence will be modified

2 In the Annual Summary for 1890 the Registrar General states "It appears from the records of the London Fever Hospital 57 that out of an equal number of cases of enteric fever about many die in a quarter of the year as another the spring quarter however showing a slightly greater fatality amongst its cases than one of the other three." It is not to be anticipated that hospital would include a full proportion of the slighter attacks, but it from the above observation that even amongst those of sufficient to bring them into hospital there is some indication of higher mortality at the period of spring minimum.

the periods of record being different the two curves are not together parallel, the winter maximum being far more marked in the death curve, based upon fifty years' statistics, than in the hospital curve, which relates only to the fifteen years 1876-90. But in an earlier chart of similar character³ the concurrence is closer, and in both instances the contrast in range is very striking and confirms the relation between maximum seasonal prevalence and lessened average fatality of attack. We may conclude, from the difference between the two admission curves referred to that small pox since 1830 has somewhat altered its seasonal curve, the spring maximum having become much more prominent and the winter maximum less so. The differences between the death curve and admission curve for scarlet fever are slight, and notification statistics⁴ afford a clearer contrast. Still the attacks, measured in either way, rise higher above their mean in autumn, and fall further below it in spring, than do the deaths, and the same inference of lessened case mortality in time of seasonal prevalence may be drawn. As regards measles there are few data for comparison, but Dr. Harvey Littlejohn⁵ has given us the seasonal curves of deaths and notified attacks for the ten years 1880-89 in Edinburgh. They are closely parallel, and, so far as the principal maximum in spring is concerned, there is no indication of altered case mortality, the crests being of equal height, but the attack curve falls rather lower than the other at the minimum, and the smaller maximum in December is more marked in the attack curve than in the other. At all events there is no evidence of increased case mortality accompanying the seasonal prevalence. The epidemiological character of measles is such as to render it unlikely that any strong contrast would appear. The epidemics are brief and widespread and the attacks which bridge over the intervals are few. Hence the data, including the monthly means of attacks and deaths, are made up almost exclusively of the records of epidemics, the attacks and deaths during the intervals being too few to materially affect the averages or to afford a basis for comparison.

Amongst certain diseases of mobile type, and particularly those which are dependent upon changes in the soil, the seasonal curve has a different meaning. The seasonal maximum of prevalence is dependent upon increased virulence, and the severity of attack is greatest at that time. The lowered case mortality of enteric fever during the autumnal prevalence divides it sharply from the purely telluric group in this respect. Diphtheria again, is liable to rapid change of type, and it may be that seasonal conditions bring about intensification as well as wider diffusion of the contagium. The notification figures quoted by Dr. Thorne Thorne⁶ lend some support to the idea that the case mortality in diphtheria is, on the whole, increased during the autumn maximum, but further evidence is wanted. It would seem that, in small pox at all events, the seasonal curve is of wider range during periods of greater epidemic intensity than at other times. Buchan and Mitchell⁷ found that this was the case in 1870-71-72 to a very marked degree as compared with the other years for which records were available. Indeed, the figures given by them show a gradation in this respect in successive quinquennia, from the point of minimum mortality in the fifties to the great epidemic of the early seventies, a gradation which is in keeping with other indications of progressive change in the character of small pox during that period. In the following table the range of the mean seasonal curve for each group of years is measured roughly by the percentage excess of the January maximum over the September minimum—

Table of Small pox Deaths in London

During	Deaths in first four weeks of January	Deaths in last four weeks of September	Percentage excess of maximum over minimum.
1840-44	485	345	41
1845-49	462	288	60
1850-54	317	207	53
1855-59	263	217	21
1860-64	324	233	39
1865-69	406	228	78
1870-74	934	372	165

³ Registrar General's Annual Summary 1889.

⁴ Epidemiological Society's Transactions 1887-88 p. 176.

⁵ Ten Years' Compulsory Notification of Infectious Diseases in Edinburgh.

⁶ Diphtheria, its Natural History &c. p. 32.

Journal of the Scottish Meteorological Society 1876.

From this it appears that, as the destructiveness of small-pox increased in the sixties, so did the range of its average seasonal curve. If, however, the quinquennia are traced backwards from the time of least mortality in the direction of the previous great epidemic of 1838, the otherwise accordant indications are interrupted by a conspicuous lessening in intensity of the seasonal curve in the years 1840-44. Another point of some interest in connexion with the seasonal curves of infectious diseases is that they are often bolder where climatic changes are more intense and more orderly. This is seen, for example, upon comparing the curves of small pox, measles, diphtheria, or enteric fever (not, however, of scarlet fever or whooping cough) for London and New York respectively.⁸

The varying incidence of infectious diseases at different seasons is no doubt dependent directly or indirectly, upon climatic conditions. It has been suggested that social relations have much to do with it there being closer aggregation in doors in the colder months, but this explanation is negatived by the want of uniformity amongst the diseases in question. Some infectious diseases are most prevalent at the beginning of the winter, others at the end. Scarlet fever reaches its maximum in England in October in Germany and Scandinavia in January, in New York in May. Further than this the rise begins long before the maximum is reached, so that if it be alleged that the commencement of winter-conditions causes the maximum of scarlet fever prevalence to be reached in October it would still be necessary to explain why the rise begins as far back as May. Perhaps the most unequivocal instances of a seasonal prevalence of disease dependent upon social conditions are those which arise from the difference in risk of exposure to infection on Sundays as compared with other days of the week. Thus the rash of small pox has been stated to appear more often on Sunday than on any other day of the week amongst domestic servants, the usual interval between infection and rash being fourteen days and the chance of out-door infection being often limited to Sunday. The notification records at Nottingham show a very decided minimum in the number of onsets of scarlet fever on Wednesdays corresponding, as it would seem, to a maximum risk of infection on Sundays.

THE CHOLERA EPIDEMIC IN RUSSIA

By FRANK CLEMON, M.D. EDIN. &c.

No I

IN CENTRAL ASIA AND SIBERIA.

SINCE 1872-73 no epidemic of cholera has occurred in Russia that can compare in violence and extent with the recent outbreak. The disease still lingers in some parts of that empire, but these bear but a small proportion to those in which it is extinct, and it is now possible to gather from the completed returns some impression as to the severity of the epidemic of 1892. Daily reports have been received from every part of the country by the authorities at the Medical Department of the Ministry of the Interior in St. Petersburg but these have in many instances been supplemented by later and fuller reports so that the final totals are considerably greater than the sum of the daily ones would be. With regard to the authenticity of the figures given in this and the following articles it should be stated that they have been in every case obtained directly from the authorities just named. The liability to error particularly where the figures are derived from such distant and sparsely inhabited regions as those which form the subject of the present article, is obvious, but the Russian Government has spared no effort to obtain as complete returns as possible and I am assured by the Director of the Medical Department that in no case does the error exceed 10 per cent. It is proposed here to trace briefly the course of the epidemic throughout the Russian empire.

The cholera reached Russia direct from Persia. It threatened her frontiers as soon as it appeared in Meshed, which is little more than 100 versts from the line which separates the two countries. As Meshed may be looked upon as the nidus from which the disease spread to Russia, it may be worth while to look a little closer at the nature of this town. Meshed

⁸ Buchan and Mitchell, Journal of the Scottish Meteorological Society, 1878.

is a place of considerable importance, it is the capital of Khorassan and is one of the most densely populated cities of Persia. It is joined by a good road with Ashkhabad, the chief town of the Russian province of Transcaspia. In Meshed are found the mosque and tomb of the holy Imam Riza, a highly venerated saint amongst the Shute Mohammedans, and consequently there is an almost constant flow of Mussulman pilgrims visiting the shrine from various parts of the country. That they come from both sides of the frontier is proved by the fact that on the Transcaspian Railway a time table has been published in the Persian language and bears a portrait of the Shah to induce the faithful to avail themselves of the railway in their pilgrimages. Cholera appeared in Meshed in May, 1892. A telegram in *The Times*, dated May 26th, stated that up to that date thirteen cases had been reported.¹ It may have existed there for some time before this date, as on the 31st (19th, Old Style) it had passed the frontier and appeared in Kachka, 130 versts (eighty seven miles) from Meshed. Kachka was the starting point of the epidemic in Russia, the point of inoculation whence the disease spread throughout the country. The local manifestations were not, however, very severe. From May 19th² to June 10th there were, in all, forty five cases with forty one deaths. It is not unlikely that there were more cases, but unreported, which would reduce this appalling death rate. Kachka is a town lying in the midst of a more or less barren steppe north of the Persian frontier. It consists of an *aul*, or Turcoman settlement, a Russian town, and a station on the Transcaspian Railway, about 120 versts from Ashkhabad on the west and 200 versts from Merv on the east.

The effect which the opening of new railways or other means of communication has on the course of epidemics is an interesting problem. The present epidemic of cholera has spread through Russia with unprecedented rapidity, which may be most plausibly explained as the result of the laying down of many new railways and of the increase in the number of people who travel by rail. By far the most important of the new lines which have been opened since the epidemic of 1872-73 is the Transcaspian Railway. This line, it will be remembered, was projected in 1880 and carried out by General Annonkoff, through whose energy the last part of the line was finished in an incredibly short space of time, and the completed railway to Samarcand was triumphantly opened on the anniversary of the Czar's coronation in the spring of 1888. Originally intended as a purely military railway, and still under the control of the Ministry of War, it has proved, nevertheless, of great commercial importance, and carries large quantities of goods and passengers. It has shortened the journey between Samarcand and the Caspian Sea from the many days which were formerly needed, when camels formed the sole carrying power, to the comparatively short period of sixty hours. Beginning at Oozoon Ada on the Caspian Sea, the line runs through Ashkhabad, Merv and Bokhara to Samarcand, where, for the present, it ends. For the greater part of its course it runs over almost barren steppes, bordering the desert of Kara Kum, until it crosses the great Amu Daria river (the ancient Oxus) and enters the rich and fertile valley of the River Zerni shan, along which it runs to Samarcand. Kachka is a station about 370 miles from the Caspian terminus of the railway, and for this distance the line runs to the north of, and parallel with, the Kopet Dag mountains, which here form the natural frontier of Persia.

As the soil (or, rather, variation in the moisture of the soil) has been thought to play an important part in the spread of cholera, it may be interesting to note its nature in this district. The correspondent of *The Times*, who travelled over the line immediately after its opening, writes³ "The best characterisation of the whole surface of the country is to divide it into sand steppes, salt steppes and grass steppes, the last-named being the so-called oases interspersed between the other two. With few exceptions all the sand steppes manage to nourish the short and knotty shrub called the 'saxaul,' which strikes its hardy roots down to a wonderful depth, sometimes ten or twelve feet, into such soil as it can find, and appears on the surface like a thin and scanty gooseberry bush, varying from a foot to five feet in height, at inter-

vals of five, ten, twenty, or perhaps forty feet, all over the plains as far as the eye can see. As soon as the great heats come on, the saxaul gets scorched up and assumes a similar colour to that of the dusty drab steppes." Where there is none of this plant the sand steppes "present nothing but shifting sand, driven up by the winds into hills of all shapes and sizes, destitute of vegetation and interspersed with salt lakes and pools." The salt steppe is even flatter than the sand steppe, as it is unaffected by the wind. It is "aked over with a thick crust of whitish clay or marl, impregnated and faced with salt, which crystallises perfectly white on the surface, like snow, especially in the sunken spots or salt pans left by the rainpools. Salt here for the most part takes the place of sand and glitters brightly in the glare of the sun." In the oases, on the other hand, which form about 10 per cent of the whole of the country of Transcaspia, the soil is very rich and fertile. It has received in Russian the special name of "loess," or white earth, in contradistinction to the "tchernozem," or black earth, which gives the southern provinces of Russia their fertility. It is found only near the streams which water this sandy plain. In the stretch of country between Kachka and the Caspian Sea (the highway by which cholera entered Europe this year) the watercourses are very small and few in number, thus differing from the eastern section of the railway, where the large streams of the Tedjent, the Murghab, the Amu Daria and the Zerni shan produce a fertile soil and allow of a growth of luxuriant vegetation. The small streams of the western half of the line come from underground sources at the foot of the northern slopes of the Kopet Dag mountains, where the rainfall is only about half of what it is on the southern, or Persian, slopes.

Another important feature of this district is the occurrence at times of inundations from the overflow of these usually small and insignificant streams. After severe storms they become rushing torrents and overflow the country in an extraordinarily brief space of time. In the early days of the railway these inundations were almost as great a difficulty to contend with as the shifting sands, and it not unfrequently happened that considerable stretches of the line were torn up by the violence of the floods, but the water subsides as quickly as it rises, either absorbed by the sands or evaporated by the great heat, and in a few days land that was completely under water may be seen beginning to split into cracks and fissures from the heat of the sun.

It is interesting to note the behaviour of the cholera epidemic in this salt and sandy desert. Mr Macnamara in his "History of Asiatic Cholera," writes "After a careful study of the history of the disease a desert appears to me to be the only country in which cholera is unable to establish itself, the disease speedily dies away in an arid waste of this description." The epidemic of last summer lingered for some three months in the province of Transcaspia, but, with the exception of the town of Ashkhabad, no part of the province suffered severely from the disease. The total number of cases reported was 2800 and of deaths 1517, the ratios per 100 000 inhabitants being 400 and 217 respectively, figures in marked contrast with those furnished by the neighbouring fertile provinces of Turkestan. I proceed to trace in more detail the course of the epidemic.

As stated before, there were in Kachka between May 19th and June 10th forty five cases with forty one deaths. Between June 10th and 30th there were, in addition, thirty one cases with thirteen deaths. After the 30th Kachka ceased to appear in the official lists, so that presumably the epidemic had ceased there. On May 25th cases occurred in Oozoon Ada, the sandy terminus of the Transcaspian Railway on the shores of the Caspian Sea, and in the next three days three Persians died of cholera. Apparently the intervening stations were not affected so early as the terminus. Whether this was the fact, or whether cases occurred which have not been officially reported, it is impossible to say. It is conceivable that the Persians contracted the disease in Kachka and did not sicken till after their arrival in Oozoon Ada, the journey taking twenty two hours and a half by fast train and less than thirty six hours by slow train. The next reported cases occurred amongst a detachment of troops coming from Merv and going into camp near Ashkhabad. Between June 4th and 10th four men died, and on the last date there remained nine severe cases and twenty three suffering from diarrhoea. During that time two children died from cholera in Ashkhabad. This town is the capital of Transcaspia, it contains a population of 10 000 and is the most important station on this section of the line. It was destined later to be the scene of a most violent outbreak of the disease, but at the beginning

¹ It is stated (*Brit. Med. Jour.*, vol. I. 1892, p. 1153) that thirteen cases occurred in Meshed between May 10th and 14th. These dates were probably Old Style dates. The 14th Old Style is the 20th, New Style.

² Henceforth all dates mentioned are Old Style dates.

³ *Russia's Railway Advance into Central Asia* by George Dobson p. 147. London, 1890.

the numbers were small. On June 14th and 15th there were seven cases but only one death, whilst in the neighbourhood (presumably in the camp before mentioned) there were thirteen cases with five deaths. On the 18th, cases first appeared amongst the Turkomans in the *cosl* of Ashkhabad and in four days there were twenty-four cases with eleven deaths. Onwards to the end of June there were, in all, fifty cases, but the number of deaths is not stated. During the first half of July the numbers remained comparatively light, but on the 23rd there was a sudden and extreme rise in the numbers of cases and deaths. At that period there was intense heat and a close and sultry atmosphere throughout the day and night, and it is not unimportant to note that there was also an unusual abundance of ripe melons, of which the Russians are at all times extremely

In the accompanying chart the relation of the rise in the intensity of the cholera epidemic in Ashkhabad to the rise in temperature is shown diagrammatically. For the daily temperatures I am indebted to the secretary of the Central Physical Observatory in St. Petersburg.

Between Ashkhabad and Oozoon Ada there is no town of any size save Kizil Arvat, which has never appeared separately in the lists, any cases which occurred there being included under the general heading of Transcasian province. Oozoon Ada, important only as being the terminus on the Caspian Sea of the Central Asian Railway, was at no time severely affected, the total number of cases between May 25th and July 9th being seventy, and of deaths twenty-five. It may be mentioned in passing that the chief water supply of this town, as also of Krasnovodsk, which lies a short distance to the

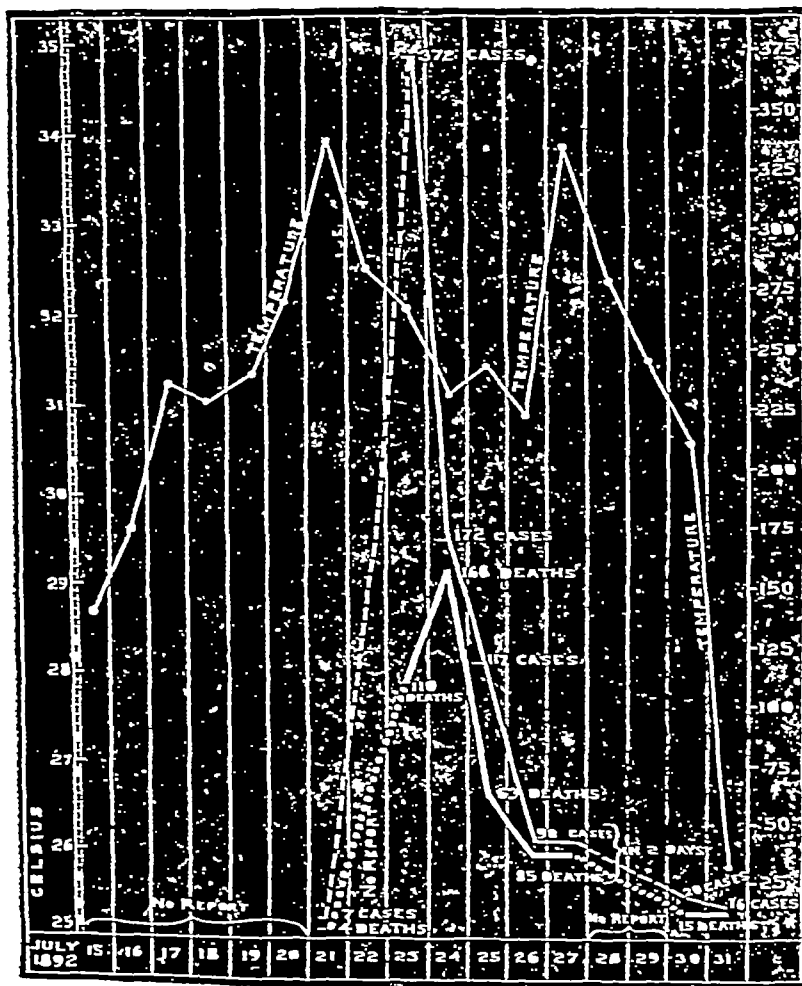


Diagram to illustrate the course of the cholera epidemic in Ashkhabad during the last half of July 1892 and the temperature of the place for the same period. The average daily returns for the first half of July were six cases and three deaths. From the 14th to the 21st no returns had been received. The temperature curve has been obtained by taking the average of three daily observations.

food. On July 23rd there were no less than 372 cases with 110 deaths, on the 24th there were 172 cases with 163 deaths, and on the 25th 117 cases with 63 deaths in a population numbering only 10,000. After this date the numbers slowly diminished. I have dwelt thus in detail on the epidemic in Ashkhabad, partly because of the importance of the town, but chiefly from the interesting fact that the disease remained there in insignificant proportions for several weeks and only assumed a severe aspect after extremely hot and stagnant weather.

north is derived from the distillation of sea-water. It need scarcely be said that in this province there is no system of drainage. Throughout the Central Asiatic provinces there exist the so-called 'Persian' or 'dead wells', which receive all excreta. These are deep pits or wells, often as much as eight sajenes (fifty-six feet) in depth. Besides these deep holes human excrement in no case remains on the surface of the earth, as in accordance with the local customs it is dug into the soil as soon as possible.

Having traced the disease westward to the shores of the Caspian I may turn and briefly review its course eastward. On June 8th a conductor of one of the trains was taken

* The influence of these figures may be best appreciated by supposing that the same proportion to population had been observed in St. Petersburg. In that case we should have heard of 500 cases in one day with 1600 deaths.

* Report of the Medical Department of the Ministry of the Interior for the year 1892. St. Petersburg 1891.

ill on the train and removed at Bokhara Station, where he died next day, and about the same time two privates of the railway battalion of troops died at the same station. The town of Bokhara lies fifteen versts (ten miles) from the railway station, round which, however, has grown up a small Russian settlement. From the Khanate capital no official figures have been published either of cases or deaths. It is possible that there were no cases there, if this be so it is a high tribute to the radical measures of sanitation carried out last winter at the instance of M. Lessar, the Russian diplomatic resident in Bokhara. From Merv equally no official figures have appeared, though at the time of the excessive mortality in Ashkhabad it was stated that there was also a considerable number of cases in Merv. One of the earliest places to be affected in Russian Turkestan (generally spoken of as the Turkestan border) was Dyzak, between Samarcand and Tashkent. Cases occurred there as early as May 31st, and from this date till June 20th there were in all 356 deaths from cholera. Samarcand escaped lightly, from May 31st till July 16th—when reports from there ceased—there were 148 cases with 88 deaths. This comparative immunity it probably owes—at least, in part—to its high position on the banks of the Zerashan river. From Samarcand the infection spread eastward and reached Tchinaz on June 5th. Tchinaz is a town on the left or western bank of the Syr Daria river, and there is here a ferry which carries the traffic between Samarcand and Tashkent. In this last-named town, the capital of Russian Turkestan, the first cases were reported on June 11th. Tashkent was much more severely affected than Samarcand, from the beginning of the epidemic till Aug. 20th, when reports ceased, there were 1058 deaths from cholera.

A word as to the inhabitants of these provinces may not be out of place here. In the Report of the Medical Department of the Ministry of the Interior for 1887 (published in 1889) some interesting details are given as to the tribes in the regions of the Amu Daria. The chief tribes are the Turkomans, the Sarts, the Karakalpaks and the Uzbeks. The Turkomans live in *auls*, in dome-shaped *kibitkas* or huts built of rushes or twigs, each *kibitka* is in the centre of a court or yard surrounded by a clay or mud wall. These courts are said by the report to be "evil smelling, to abound in excrement and filth, as the Turkomans do not remove their refuse on to the fields, there is no vegetation in the *auls*, water is taken from the *ariks*, or artificial irrigation channels, or from lakes, it is, of course, dirty, as the cattle drink from and bathe in it. At the end of the summer there is very little water left in either the *ariks* or lakes, the people suffer from want of water, but do not dig wells." The reason why they do not dig wells is probably to be found in the fact that water in the wells, whether deep or superficial, is always either salt from the first or very soon becomes so. The Sarts are more inclined to commerce than the Turkomans, and "always live near the towns and bazaars and adapt themselves to the local customs of the inhabitants." The Karakalpaks "live on the banks of rivers in *kibitkas* summer and winter, and are so hardy that even with 20° of frost Réaumur (-13° F) they do not complain of the cold or wish to change their tent life. During the time of the inundations of spring and autumn they move their tents to the highest-lying land and live as on islands, constantly occupied in catching fish, on which they live and in which they trade. In consequence of this mode of life they suffer from intermittent fever, rheumatism and leprosy." The Uzbeks, a more settled race, live constantly in the same place in *saklia* or huts, close to broad *ariks*, and occupy themselves with agriculture. "Their huts are built of clay, are six to seven arshins (fourteen to sixteen feet) in height, with an opening in the roof for escape of smoke, there is a hearth in the centre of the hut, where the fuel is the knotty *saxaul* wood. About the hearth are spread mats or among the rich, carpets, and near it is a hole or ditch into which slops are thrown, and which is not unfrequently soiled by the dejecta of the children. Beds are only found among the well-to-do, and generally the Uzbeks sleep on the mats side by side, without distinction of sex. The foul smells, the flies and mosquitoes, the high temperature in summer and the cold in winter make a *saklia* not only an unpleasant but also a dangerous habitation. The excreta and refuse are heaped together round the houses, mixed with sand which contains a quantity of lime, and in the spring removed on to the fields as manure. Each *saklia* has a garden and rice plantation, which require abundant watering. The prevailing diseases among the Uzbeks are intermittent fever, trachoma, gastro-intestinal catarrh and cutaneous diseases." The occurrence

of the last may not be unconnected with the personal habits of these people, who, like the Caucasian highlanders, change their linen only once a year, on the Feast of Bairam! In summer the children suffer greatly from choleraic diarrhoea and dysentery, and the mortality is very high. Very many families are the subjects of syphilis. Amongst a population of this nature it is not surprising that the epidemic of cholera was severe, as shown not only by the numbers attacked but also by the percentage of fatal cases. From the table to be given in the next article it will be seen that the proportion of cases to the population was very markedly higher in the provinces of Turkestan than in any other district in Central Asia. In Ferghana (the former Khanate of Khokand), out of every 100 000 inhabitants 2415 suffered from the disease, and in the province of Samarcand out of the same number 2138 were attacked, figures representing a sufficiently severe visitation, and only exceeded in the present year in certain districts of the Caucasus and in the government of Astrakhan. Tracing the further course of the epidemic to the more northerly districts of Central Asia and Siberia, it appears that the province of Uralsk was first affected early in July. This province lies to the north of the region between the Caspian and Aral Seas. The first cases occurred on July 8th amongst the Kirghiz inhabitants of the town of Gurief at the mouth of the Ural river. The province suffered somewhat severely, the proportion of cases and deaths per 100,000 inhabitants being 1023 and 524 respectively.

(To be concluded.)

SOME REMARKS ON THE PATHOLOGY AND TREATMENT OF TYPHOID FEVER

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(Concluded from p 466.)

PART II

ON THE TREATMENT OF TYPHOID FEVER

By P W Latham.

WE come now to consider what are the indications for treatment which result from these investigations. First, if the patient comes under observation at an early period of the disease—that is during the first eight or ten days—obviously the points to aim at would be to eliminate as many as possible of the bacilli from the intestine, to paralyse or attenuate such as remain and to eliminate or neutralise the toxic material from the economy, if these objects can be attained the result would be either to cut short the disease or to abridge its future course and render it milder. In a great proportion of cases diarrhoea sets in early, but in some there is obstinate constipation, and the most severe cases I have seen have been those in which for two or three or four days at the commencement of the disorder no action of the bowels has taken place. From what has been previously stated this is quite intelligible. If diarrhoea exists, some portion of the toxic material generated by the bacillus is swept out of the body, together with numbers of the bacilli themselves. If, however, the bowels are confined, the whole of the toxic material is absorbed into the system, producing its deleterious effects, as shown by rapid rise of temperature &c., the bacilli themselves increasing at the same time rapidly in number. The indication, then, at this stage is to eliminate the toxic material from the intestines by acting upon the bowels and using such antiseptic remedies as will powerfully affect the bacilli.

Now amongst intestinal antiseptics calomel is probably the best. It materially retards decomposition due to low organisms and its antiseptic power is not as greatly diminished by admixture with fecal matters as is that of other antiseptics. From its insolubility it passes into the intestines and so comes in direct contact with the parts where its action is most needed, putting a stop to the growth of the bacilli or attenuating their virulence. Here it may be remarked that it is

no new thing to advocate the use of calomel in typhoid fever. Dr. Anthony Todd Thompson used to give it, Dr. Parkes considered it was to be strongly recommended in this disorder, given not later than the tenth or eleventh day and at no time in large doses—one or two grains twice a day was enough. Wunderlich prescribed one to five grains twice daily, which Dr. Parkes considered too large a dose. Sir William Aitken writes: "In the great majority of cases where it can be given during the first week and before the occurrence of much diarrhoea the course of the disease is rendered milder and shorter." But these high authorities gave it in order "to influence the elimination from the intestinal glands by direct local action on the intestinal membrane." The late Dr. George B. Wood of Philadelphia, in his "Practice of Medicine," bears testimony to the benefit to be derived from mercury about the seventh or ninth day of the fever, and he held that "it tends in some degree to arrest the progress of the disease in the glands of Peyer and to promote resolution of the inflamed patches." What I suggest is that it acts beneficially by attenuating or arresting the development of the typhoid and other bacilli (*Bienstock's bacillus*, *bacterium coli commune* &c.) in the intestines, and so removing the cause of the disease. The toxins of these bacilli have already been absorbed into the blood stream, but they will soon be eliminated or possibly in some way, as yet not clearly made out, rendered innocuous if the further supply of them be cut off. By cutting short the disease I do not mean that the patient passes at once from a state of disease to that of health. That is impossible. But what I do mean is that the specific process—the development, that is, of the specific poison—is put a stop to. The swelling of the intestinal glands, the congestion of the intestinal mucous membrane, and the swelling of the mesenteric glands associated with this specific poison have taken place, and, though the specific disease is cut short, these morbid conditions, which by themselves would give rise to pyrexia, diarrhoea &c., require some days before they pass away and the parts regain their normal states. It takes some days after the disease is cut short to repair the damage done by the poison.

If, then, a patient comes under observation during the first week, and there is no diarrhoea, I would recommend the administration of five grains of calomel, the dose to be repeated the following day if not more than two copious evacuations are produced by the first dose. If there be slight diarrhoea, a quarter of a grain, or half a grain, or a grain of opium may be added—just sufficient to check excessive peristaltic action. If the opium stops this action altogether it will do harm. If diarrhoea is a marked symptom at the commencement of the disorder, or if violent meteorism, albuminuria or great anæmia exists I should discard the calomel and use one or other of the remedies to be referred to directly. Where calomel acts beneficially the temperature is reduced, the beneficial remission is persistent, and a considerable shortening of the whole febrile period takes place. The cases in which it has seemed to me to act most satisfactorily have been those in which its administration about the sixth or seventh day has been followed by three or four copious greenish evacuations, a lowering of the evening temperature from 104° or 104.5° to 103°, and subsequently from the eleventh or twelfth day the evening temperature gradually declining until about the nineteenth or twentieth day it reaches a normal point. Liebermeister gave three or four ten grain doses in the early stages of the disease, and was satisfied that he caused the attack to abort in a number of cases. I have never given such large doses. Further experience, however, may show their utility and indicate the conditions in which they may be safely employed. Still it appears to me that when by the sixth or seventh day the evening temperature has reached 104° or 105° the damage done is so great that, though the typhoid bacilli are destroyed and the specific disease is cut short yet, for the reasons I have already given, the patient's evening temperature will not reach the normal point earlier than the nineteenth or twentieth day. After giving one or two five grain doses of calomel, the remedy may be given on subsequent days in smaller quantities—one or two grains once or twice a day in combination with opium and ipecacuanha, endeavouring to adjust the quantity of opium so that there should be one, two and certainly not more than three evacuations daily and suspending the use of the opium at once if it paralyzes the peristaltic movement of the bowels and leads to increased tympanites. Or the following may be employed from three to five grains of mercury with chalk, two grains of compound ipecacuanha

powder, with a sufficient quantity of confection of roses as pills, or three grains of blue pill may be substituted for the grey powder.

With regard to the effects of mercury in the treatment of continued fever, it must be borne in mind that in this disorder the gums do not readily take on the mercurial action. This specific action must, however, be carefully looked for, and when symptoms of mercurialism appear the remedy must be suspended or given at longer intervals. As soon also as the evening temperature of the patient shows continuous daily remissions I should suspend the remedy or lessen the dose, according to circumstances. Upwards of fifty years ago Dr. Peter Mere Latham compared the mercurial treatment with different modes of practice in different cases of the same epidemic. "Finding one season that his wards were full of fever, whilst yet its type was so mild that scarcely any died, he thought this a favourable opportunity for trying whether mercury had any beneficial operation upon the disease. Accordingly he treated half his cases with small doses of mercury with chalk and the other half with the liquor ammoniæ acetatis and so forth, and no mercury, and he found that the patients in the first of these classes were on the average, convalescent sooner than those in the last."

Ipecacuanha is a very useful addition to the mercury, as in small doses it retards the peristaltic action of the intestines and lessens the secretion from the mucous membrane. It may do more than this: the beneficial action of large doses in dysentery is very striking and has not as yet been explained. I am not at present prepared to express an opinion upon what was once the favourite practice with physicians, of giving an emetic of ipecacuanha at the onset of a fever. The mode of action of this drug in large doses, independently of its emetic action, requires further investigation. Sir Thomas Watson, in discussing the treatment of fever, says "Perhaps emetics may, in the present day be too much neglected. I have no notion of their stopping the fever, but when given early, especially if gastric disturbance be a prominent symptom, they are sometimes followed by a marked abatement of many morbid sensations." "It is astonishing," says the observant Sydenham, "how it happens that a vomit which does not produce either a large or a morbid discharge from the stomach should so materially relieve the nausea, restlessness, anxiety and furred tongue of the patient."

After the end of the second week of the disease constipation is to be carefully guarded against. The late Dr. Todd wrote "Restrain diarrhoea and hæmorrhage in typhoid fever, and when you have fairly locked up the bowels keep them so for four or six days or even longer." To carry out the latter suggestion is, I think, most prejudicial—and for two reasons. In the first place there is allowed a greater absorption of the toxins from the alimentary canal and it will generally be found that with constipation the temperature of the patient rises, in the second place, by allowing an accumulation of fæces, especially in the lower part of the ileum, the risk of perforation taking place is very materially increased, the intestine is put on the stretch, and if there be a deep ulcer the peritoneal covering may give way. In some animals, it will be recollected, it was only after the intestinal peristaltic action had been stopped that Sætz succeeded in producing typhoid fever. I think it best where there is a tendency to constipation to secure at least one daily evacuation, and, if by means of small doses of calomel or grey powder this is not effected, then to administer daily an enema of about half a pint of soap-and-water.

If there be too copious or excessive diarrhoea this must be restrained, and the best remedies are the subnitrate of bismuth and tannic acid. The subnitrate of bismuth acts beneficially in two ways: first of all it is a good antiseptic when brought in contact with the surface of substances—as is seen by its preventing any offensive discharge when sprinkled over fresh wounds. Owing to its insolubility it exerts little antiseptic effect when added to liquids. Its antiseptic effect may be due in some measure to its slowly giving off nitric acid, which is an energetic bactericide, but it possesses also another special action in intestinal mischief. It was found by Gosselin and Heret² from experiments made on rabbits that the action of sulphuretted hydrogen in the intestines gives rise to violent peristalsis. If then, this gas as the result of the putrefactive changes is present in excessive quantity in the intestines on administering a salt of bismuth the gas is readily absorbed by its forming sulphide of bismuth, and so

¹ See Kocher, Volkmann's Klinische Vorträge No. 224.

² Centralblatt für die Medicinische Wissenschaft, 1886 p. 574.

the increased peristalsis subsides. The subnitrate when pure has no irritant property and can be administered internally in very large quantities without injury, though when applied in large quantities to external wounds so much may be absorbed as to cause poisoning, characterised by acute stomatitis, followed by intestinal catarrh &c. The liquor bismuthi et ammoniæ citras is also undoubtedly capable of acting as a violent gastro-intestinal irritant. In typhoid fever, therefore, the insoluble subnitrate alone should be used in doses of fifteen, twenty or thirty grains three or four times a day or oftener, according to circumstances. In tuberculous diarrhoea much larger doses are often given with the happiest results. Monneret gave as much in these cases as an ounce during the day. He says "In the last seven years during which I have administered the medicine in tuberculous diarrhoea, I have seen many persons who appeared to have but a few days to live cured of their diarrhoea, so far as to be able to take food, gain flesh and strength and leave the hospital under an impression that they were cured."³ In the diarrhoea of children who are being weaned or are fed artificially this remedy acts very satisfactorily, and the explanation of its action in all these cases must be sought for in its bactericidal properties.

As stated in the first part of this paper, the addition of subnitrate of bismuth to various media seems not to stop the growth of the typhoid bacillus. It grows in them just as readily as in media to which 0.25 per cent of carbolic acid has been added. It may be that the bismuth diminishes the virulence of the bacterium coli commune, the products of which, as has been already pointed out, may prepare the soil for the typhoid bacillus. This is a point on which further investigations are necessary and will be made. Of course it is very necessary in giving the remedy in large doses, especially in typhoid fever, to be quite certain that it contains no arsenic, an impurity which unfortunately exists in many specimens. Reinsch's test furnishes a rapid means for doing this.

In tannic acid also we have a useful remedy in the diarrhoea of typhoid fever. It has no effect on the peristaltic movement of the bowels, but it diminishes the secretion from the glands, renders the faeces more consistent and in large doses destroys the peculiar faecal odour. It possesses bactericidal properties and so checks putrefaction and removes unpleasant odours, but it is inferior in these respects to other agents, as strong solutions are necessary for the purpose. It may be given (best as pills) in doses of from three to five grains twice or three times a day—alternately, if necessary, with the subnitrate of bismuth, if there be excessive diarrhoea and tympanites. Where the latter is a prominent symptom at the end of the second or beginning of the third week of the disorder the use of oil of turpentine is sometimes very serviceable. Not only does it lessen secretion from mucous membranes,⁴ but it puts a stop to putrefactive and fermentative processes. This may be due to the turpentine ($C_{10}H_{16}$) itself, but the bactericidal properties are intensified by the peroxide of hydrogen and the ozone, which the oil, after exposure to air and light, is found to contain. The late Dr. George B. Wood of Philadelphia, Dr. Graves and Dr. Murchison have recommended this remedy. Dr. H. C. Wood says "There are two conditions or stages in which it is especially useful—indeed, is of incalculable service. About the end of the second week the tongue sometimes becomes very dry, red, chapped, perhaps coated in the centre with a brownish fur, and at the same time marked meteorism develops. Ten drops of turpentine every two hours during the day and every three hours during the night will in the majority of cases relieve the bad symptoms noted. When convalescence is protracted, when there is a constant tendency to the recurrence of diarrhoea—when, in other words, the ulcers of Peyer's patches are slow to heal—turpentine acts almost as a specific."⁵ If albuminuria exists, however, the use of turpentine is contraindicated. Turpentine is also a most valuable remedy in intestinal hæmorrhage. John Hunter was one of the first to recommend its use. He says "I have seen it immediately stop vomiting of blood from the stomach when all other means had failed. It is the best if not the only styptic."

Another remedy which may be used with advantage in the second and later weeks of typhoid fever is β -naphthol. It is one of the most powerful antiseptic agents, possessing three times the strength of carbolic acid or iodoform and four times that of creosote and, being almost insoluble, is one

of the best agents for disinfection of the intestines. When administered in typhoid fever it deodorises the stools, lessens the tympanites and renders the tongue moist. It may be given in doses of from three to five grains every two, four or six hours, according to circumstance. If there be profuse diarrhoea it may be given alternately with subnitrate of bismuth.

Solution of chlorine is said to act beneficially when administered in this disorder, and its use has recently been strongly recommended by Boyd.⁶ Sir Thomas Watson says "For some time past I have been in the habit of giving to all my fever patients a drachm of the chlorate of potash dissolved in a pint of water as a daily drink. Without being able to tell you precisely in what respect, in what degree, or in what way this salt appears to do good, my own impression is strong that it does exercise some favourable influence upon the general character and course of the disorder." I suggest that the beneficial effect is due to the decomposition of the salt, chlorine and peroxide of chlorine being liberated, and to promote this decomposition I recommend the addition of one drachm of dilute hydrochloric acid to be added to the solution.⁷ This remedy may be used alone or in conjunction with small doses of calomel, but not with any of the other remedies referred to in this paper.

As regards antipyretics, such as phenacetin, antipyrin &c., my experience does not allow me to place much reliance upon their use. Occasionally a single dose or two have appeared to act beneficially, but in most cases the reduction of temperature has soon been followed by a rise to a higher point than before. In fact, the remedy seems to be directed only against one particular symptom, and though the body heat is temporarily reduced the typhoid poison, toxins or what not, which causes this symptom is, all the while, accumulating in the blood, and produces its full effect in spite of the remedy. The hyperpyrexia must, however, be controlled, and cold sponging and the cold bath are, in my opinion, the most reliable means for doing so. Possibly during the reduction of the temperature some portion of the typhoid poison may be eliminated through the kidneys or the skin and the condition of the patient improved. It seems to me that what we are most in want of just now is a remedy which will either promote the elimination of the typhoid poison from the blood through the usual channels or act as an antidote when injected into the blood. Possibly the serum of immune animals may be shown to have those effects, at all events, the results of experiments made in this direction, alike with regard to typhoid fever, to diphtheria and to tetanus, would lead us to hope that most important therapeutic agents are about to be brought into service for the treatment of these disorders.

Lastly, a few words as to diet and stimulants. In my opinion the best food of all in typhoid fever is milk diluted with water, the dilution being carried only so far that no curd or undigested milk is to be seen in the evacuations. Five ounces of milk with one or two of water may be given every two hours. To feed a patient oftener, unless there are special circumstances, is injudicious. A larger quantity of milk may be given if the patient seems to require it and if he can digest it. If necessary, the milk may be peptonised, perhaps in the later stages of the disease this may be called for, but in the earlier stages it is generally unnecessary. Soups and beef tea are frequently given, but they are much less nutritious than milk, and not unfrequently they tend to increase the diarrhoea. Now, though the typhoid bacillus can be cultivated in milk,⁸ other intestinal bacilli do not appear to thrive upon it, and in individuals fed exclusively on milk—children, for instance, at the breast—the faeces contain only the bacterium coli commune. Biernstock's bacillus, the bacillus putrificus coli, appears only when other kinds of animal diet are taken. A milk diet also, as it produces no irritating effects on the intestinal tract, may contribute less towards increasing the virulence of the bacterium coli commune than animal soups &c., and perhaps herein lies the explanation of why the latter may be provocative of diarrhoea. This, also, may perhaps explain the reason why relapses are so readily brought about in cases of typhoid fever by the too early administration of solid or semi-solid animal food. Imperfectly digested, it may irritate the alimentary canal, and either the altered secretions or the undigested food itself may furnish material for increasing the virulence of the bacterium coli.

³ Bulletin de Thérapeutique vol. iv p. 267.

⁴ Rosbach Festschrift der Medicinischen Facultät zu Würzburg, 1882, p. 42.

⁵ H. C. Wood's Therapeutics, p. 784, 1888.

⁶ THE LANCET March 26th 1892.

⁷ The decomposition is as follows $4\text{KClO}_3 + 12\text{HCl} = 4\text{KCl} + 6\text{H}_2\text{O} + 3\text{ClO}_2 + \text{Cl}_2$.

⁸ Wolfhügel and Biedel, loc. cit.

commune, the toxins of which then prepare the soil for reviving the attenuated and enfeebled typhoid bacilli, which are even at this time still tenacious of the intestinal glands.⁹ As regards the administration of alcohol in typhoid fever, it is unquestionable that many cases do extremely well without its aid, and unless its use is clearly indicated patients are better without it. Alcohol is clearly indicated when there is prostration, with a feeble and soft pulse, the extremities cold, the tongue dry and brown, if there be stupor or low delirium, and especially if the impulse of the heart's apex is diminished and the first sound of the heart is feeble. Then a small dose of wine or spirit should be administered, the result watched, and the dose increased, diminished or discontinued according to its effect. Long ago the following rules were laid down by Dr. Armstrong, and endorsed by Dr. Graves, as to the propriety of persevering in the administering of wine in fever, and no better ones can be framed: "1. If the tongue becomes more dry and brown it does harm, if it becomes moist it does good. 2. If the pulse become quicker it does harm, if it be rendered slower it does good. 3. If the skin become hot and parched it does harm, if it become more comfortably moist it does good. 4. If the breathing become more hurried it does harm, if it become more deep and slow it does good. 5. If the patient become more and more restless it does harm, if he become more and more tranquil it does good."

Such, then, are some of the remedies that appear to be useful in the treatment of typhoid fever. They are nearly all old remedies—empirical—their use suggested by the keen clinical observation and experience of the physicians of a bygone age. The scientific investigations of the present day are now teaching us how to employ these same remedies with greater precision.

Trumpington-street, Cambridge

THE PHYSIOLOGY OF DEATH FROM TRAUMATIC FEVER

A STUDY IN ABDOMINAL SURGERY

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(Concluded from page 462.)

The effect of the contraction of the vessels on the blood.—The effect on the blood itself of the existence of the febrile condition is great, and certain experimental and clinical facts are of importance as aids to our comprehension of the results produced. Constant interchanges go on between the fluids in the tissues and those in the bloodvessels, and also between the former and the contents of the lymphatics, whilst the lymphatic system also communicates directly with the venous system. When a shrinkage of the vascular capacity occurs, there must necessarily be a diminution of the amount of blood in the vessels, and the fluids of the body must therefore accumulate in increasing quantities in the tissues and lymphatics. Hence, when the arteries contract in inflammation, in the absence of venous congestion, there must be much tension induced within the tissues throughout the body. In a favourable case this tension is physiologically relieved by the action of the excretory glands and especially of the sweat glands. It is to be noted that an extreme contraction of the arteries or even the shutting off of the blood supply altogether, will not prevent the action of these latter glands.¹ Sweating indirectly removes much of the blood plasma. There is no evidence, however, that the blood corpuscles are carried off in this way. If only the plasma were got rid of, a very great increase of the number of red blood corpuscles relatively to the liquor sanguinis would result. This, however, is not found to be the case. Dr. Lockhart Gibson has recorded that "the white corpuscles always rise in number and the red corpuscles always fall in number for a day or two after operations and that without any regular proportion to the amount of blood lost."² The red blood corpuscles must therefore be eliminated in some way. In health these corpuscles are continually being broken up and are as steadily being formed, but the rate of formation and destruction varies. The changes are

greater in youth than in old age and are very active after food has been taken.³ During the febrile process also there is evidence that the red blood corpuscles are destroyed in great numbers. The amount of this destruction at any time may be estimated by the amount of bile pigments formed.⁴ That there is not usually any very obvious sign of an excess of bile formation in an ordinary case of traumatic fever is no proof that such does not take place. "Normally a great part of the bile goes round in a circle from the liver into the duodenum, thence into the blood, so to the liver again, whilst another part is carried down by the contents of the intestine, and after becoming more or less altered passes out of the body with the feces."⁵ There are therefore no clinical means of measuring the bile formation, although bile sometimes passes in the stools in obviously excessive quantity during a fever. There can be no doubt, however, that an increased formation of bile or of certain constituents of it does occur during the febrile state. It has been shown that the formation of bile and of urea depends in large measure on the destruction of red blood corpuscles, and that these excretions are therefore necessarily increased or diminished together.⁶ In fever the urea excretion is greatly increased, and the urine pigment derived from the hæmoglobin may be augmented twenty times.⁷ There is therefore distinct evidence of increased destruction of blood corpuscles during the febrile process. Again, in cases of obstruction of the intestine or of pseudo-ileus after laparotomy, along with the increasing contraction of bloodvessels, there is marked evidence of great destruction of blood corpuscles before the secondary rise of temperature takes place. There is very evident diminution in the amount of excretion by the kidneys, amounting to complete suppression before death, but there is invariably a great and increasing quantity of indican in the urine which may be observed before any signs of suppression are detected. The amount of pigment vomited is also very great, whilst after death the liver is dark coloured and the gall bladder is distended with black bile. This altered bile is certainly produced in very large quantity, and it must be concluded that there is a correspondingly great destruction of red blood corpuscles. It is further to be borne in mind that this excessive destruction of blood corpuscles is in these cases of pseudo-ileus, contemporaneous with the contraction of the arteries and not with an increase of temperature. On the contrary, the temperature, sometimes at least, is falling when the vomiting of altered bile is becoming excessive. In shock nothing is known, so far as I am aware, of any effects of the condition on the amount of bile and urea excreted, but convalescence from shock is often preceded by bilious vomiting which may be due to increased secretion of bile and other fluids. With the certainty that the blood plasma is diminished, there is thus a considerable amount of evidence that the red corpuscles are also destroyed and excreted in conditions in which great contraction of the arteries occurs. According to Dr. William Hunter we should expect to find the plasma and corpuscles of the blood thus removed, if at all, in their normal proportions. He has shown that the most remarkable feature presented by the blood is the "power it possesses of maintaining a composition as rightly entitled to be termed stable as that of any other tissue of the body."⁸ During health the destruction of blood corpuscles is accompanied by a corresponding amount of blood formation, so that the blood remains nearly or quite constant in quality and quantity. Hence increased formation of blood would seem to be a physiological consequence of excessive destruction of it. But, whilst the capacity of the vascular system remains small or is being reduced increased blood formation can only lead to still greater blood destruction. The formation of such a complex entity as a blood corpuscle must, however, make great demands on the supplies of nutriment, and therefore any great increase in the activity of blood formation is quite sufficient to account for the extreme wasting of the fatty tissues and skeletal muscles which undoubtedly takes place during fever.

The temperature in traumatic fever.—I now turn to the consideration of the temperature in fever. There cannot be any doubt that the contraction of the arteries to which I have endeavoured

¹ Wm. Hunter. Brit. Med. Jour. Aug. 3rd 1889, p. 220.

² Wm. Hunter. loc. cit.

³ Lauder Brunton. Disorders of Digestion, p. 185.

⁴ Noel Paton. Journal of Anatomy and Physiology, vol. xx, p. 521.

⁵ Landols and Stirling. fourth edition, p. 413.

⁶ Arliss and Gale Lectures, 1890. Brit. Med. Jour., vol. II 1889, p. 116.

⁷ Vide ante Sabarelli.

⁸ Landols and Stirling. fourth edition, p. 555.

⁹ Journal of Anatomy and Physiology, vol. xx., p. 133.

voured to trace so many of the symptoms which are observed in fever may exist in a very marked degree without any elevation of temperature being found. Moreover, great disintegration of the blood may occur when the temperature is falling. It has also been pointed out by Burdon Sanderson that "the febrile augmentation of the urea discharge takes place immediately after subcutaneous injection of pus—i.e., at a time which precedes the elevation of temperature."⁹ It is therefore certain that an excessive destruction of red corpuscles may take place when there is no elevation of temperature, and consequently that the elevation of temperature in traumatic fever does not depend on the increased destruction of blood corpuscles. In seeking for the cause of the elevation of temperature in fever, whilst attributing the excess of excretion of bile, urea and the like products to the unusually active destruction of blood corpuscles necessitated by the advancing contraction of the arteries, it might be suggested that the rise of temperature is coincident with, and caused by, the compensatory increase of blood formation. But "the urea discharge remains"¹⁰ excessive during the whole course of the fever. Therefore an excessive destruction of blood must go on also during the whole process. The patient, however, towards the end of an uncomplicated traumatic fever is evidently gaining strength and blood. At this time, not only must the blood be formed to replace that which is being destroyed, but, as the vessels relax, the increasing intra vascular space must also be filled up. Hence increased blood formation must continue, if indeed it does not become more active, as resolution progresses. The temperature is, however, falling during this time and therefore increased blood formation cannot be the cause of its elevation. Nevertheless, the formation of blood corpuscles in unusual numbers must involve a large amount of tissue change in many parts of the organism. Calorimetric experimental evidence shows that whilst these processes of excessive blood formation and blood destruction and the wasting of the tissues and their subsequent return to the normal are going on there is an increased elimination of heat. The variations in the amount of heat production and heat elimination which take place in health are very great. The taking of food and starvation, active exercise and repose, the temperature of the surroundings and other conditions have a marked effect on the amount of heat developed and eliminated. In health these conditions have little or no influence on the body temperature. Elevation of temperature, therefore, does not depend on increased production of heat. In fact, less heat is produced in fever on fever diet than in health on full diet.¹¹ It has been shown that an elevation of temperature may be brought about by a stimulation of a portion of the brain substance to the "mesial side of the corpus striatum near the nodus cursorius of Nothnagel."¹² The conclusion has been drawn that by the stimulation of a particular nerve area in the situation named "the thermogenetic function of the muscles is abnormally increased."¹³ But, if an elevation of body temperature does not depend on an increased production of heat, then no such simple explanation of the thermogenetic, or rather heat raising effect thus produced is satisfactory. A more rational view of the thermal phenomena of fever is that elevation of temperature depends in no way on increased production of heat, but on something which disturbs the arrangement whereby heat production is counterbalanced by heat elimination. This undoubtedly sometimes occurs, and there can be little doubt that the mere stimulation of a thermogenetic tract will not cause a rise of body temperature so long as the rest of the heat-regulating mechanism remains intact. With this mechanism in a healthy condition an extra development of heat would at once produce compensating thermolysis, as when food is taken and after violent exercise, therefore thermolysis must be interfered with at the same time that thermogenesis is stimulated, or the temperature will not rise.

Every assumption that the muscles are in a special manner the heat producing tissues, that they have a thermogenetic function peculiar to themselves, and that on the excessive exercise of this function the febrile condition depends, seems to me open to objection. Doubtless the changes which take place in fever and which lead to marked wasting of the muscles, are associated with the development of heat in the

muscles and are not dependent on, nor associated with, the exercise of the contractile function of their tissue. I have, however, shown that there is some reason to suppose that the wasting of the muscular and fatty tissues during the febrile process may be secondary to the efforts made by the organism to supply fresh blood in place of that which is destroyed. It might be argued from this that the blood forming organs have the greatest claim to be described as specially fever producing. We have, however, seen that the blood forming function is also very active when fever is abating. A special claim to the title of thermogenetic cannot be established for any tissue. Probably all the tissues are thermogenetic in proportion to their bulk and vascularity. An explanation, which I believe to be new, of the rise of temperature in traumatic fever has suggested itself to me. It has been shown, as already pointed out in this paper, that whilst the inflammatory process exists there is in the affected part a temporary partial devitalisation of tissue which is the primary lesion of inflammatory congestion.¹⁴ There is also evidence that during the advance of an inflammation an increasing area is subjected to this condition of diminished vital activity. I have endeavoured to show that this local condition, although the parts are full of more or less stagnant blood and are surrounded by a very active circulation, may transmit to the vaso motor centre an indication that there is a want of fresh blood in the part. Exactly in the same way, it seems to me that, although the parts are surrounded by an active circulation of blood which is above the normal body temperature, and though they are themselves actually above that temperature, yet, in the process of dying or becoming partially devitalised, as the normal local chemical reactions cease, the nerves of the affected tissues must transmit to the central nervous system an indication of increasing physiological inactivity—of the approach of the coldness of death. This would be expected reflexly to stimulate heat production, but if the body temperature be raised those tissues which eliminate heat—notably the skin—will be excited to increased action. Thus the local condition tends to raise the temperature whilst the heat regulating mechanism endeavours to bring it down to the normal, and on the comparative power of these opposing forces depends the result at any particular moment. It is to be noted that, though I have attributed the changes in the pulse and in the temperature to separate physiological mechanisms, they are traced to the same cause—the partial devitalisation of the inflamed tissue, hence, in the condition of simple fever the pulse and temperature rise and fall together, but this correlation may be altered by various complications.

The specific fevers—The foregoing conclusions apply to the simplest forms of fever only. It seems to me, however, that in every fever all the conditions which I have described may be detected. In the specific fevers and in the septic fevers there is evidence that some processes are taking place besides and beyond those which constitute a simple fever arising from an injury. The superadded causal condition is a specific poison giving rise to the pathognomonic signs of the particular disease produced. Of the fevers thus brought about the septic varieties are specially deserving the attention of the surgeon. By septic fever and by septicæmia I mean a complication of traumatic fever due to the absorption of a poison through a wound. The admission of a poison through a mucous membrane, as described by Olshausen and Verchère, has been regarded by some as a mode of development of septicæmia. I have endeavoured to show that in the case instanced death is due to other causes. Cases may occur, however, in which a poison which requires no wound for its entrance gains access to the tissues of a patient who has been operated on. It is believed, for instance, that operation cases and recently delivered women are specially susceptible to the poison of scarlet fever. All such cases should, if possible, be clearly separated from those of surgical septicæmia. Such an essential difference in etiology forbids that they should be classed together. The clinical symptoms and post-mortem signs of a septicæmia are those of a universal irritation added to those of a traumatic fever. Except in cases of septic intoxication, micro-organisms have been found in all the tissues of the body, but of all the organs the kidneys are most constantly affected in this way,¹⁵ and clinical evidence is very strong that through the renal tissue the elimination of the poison is mainly effected. In all forms of the disease if, and so

⁹ On the Process of Fever. Practitioner, April, 1876.

¹⁰ Burdon Sanderson loc. cit. quoting Senator Untersuchungen über den Fieberhaften Process und seine Behandlung.

¹¹ Wood on Fever, p. 239.

¹² Macalister. Gulistanian Lecture Brit. Med. Jour. vol. I, 1867, p. 470.

¹³ Loc. cit.

¹⁴ Lister. Philosophical Transactions, vol. cxlviii, p. 693.

¹⁵ Pathological Transactions, vol. xxx., p. 13.

long as the kidneys continue to act there is a possibility even a probability, that the patient may recover, but if albuminuria and suppression of urine occur, and are at all continuous, death will speedily follow. We cannot, however, attribute death from septicæmia with suppression of urine after an operation to retention of physiological effete matter which ought to be excreted. As I pointed out in regard to obstruction of the bowels after an operation, so in this case death is too rapid to be due to the complication alone. Septicæmic suppression of urine rarely lasts more than three days, whereas in simple obstructive suppression of urine life is usually prolonged for from nine to eleven days.¹⁶ Septicæmic suppression of urine leads, however, to great interference with the circulation of the blood through the kidneys, and thence arises a physiological condition in every respect parallel to that which exists when the blood flow through the mesenteric vessels is interfered with by intestinal distension in cases of obstruction or paralysis of the bowel after laparotomy. It seems to me that death is induced in exactly the same way in both these conditions. There are, therefore, many resemblances between the two classes of cases but the only common cause of the exacerbation of the inflammatory fever in septicæmia and in pseudo-ileus is the obstruction to the flow of blood through a large and important vascular area. So like, however are the two modes of death that Olshausen and Verchère, though recognising that there is a difference, have attributed the symptoms of pseudo-ileus to a species of septicæmia peculiar to itself. It may be stated generally that any complication which raises the blood pressure during a traumatic fever is dangerous, and if persistent may induce death in the manner which I have described. Those who do not attribute the changes caused by even the simplest fever to peripheral irritation assert that the phenomena observed are always due to the formation of some poisonous substance, which, circulating in the system, induces the febrile condition. If it be assumed that peripheral irritation is not the cause of fever, both the hypothetical substance which produces this disturbance and its mode of action have yet to be discovered. On the other hand, the views of traumatic fever which I have endeavoured to formulate explain also how certain irritant poisons may cause all the characteristic phenomena of the febrile state. Circulating in the system, these poisons must give rise to a widespread irritation and consequent partial devitalisation of tissue. Such a widespread partial devitalisation of tissue must produce the same effects on the vascular and thermal systems as are brought about by the more obvious devitalisation due to a local irritation. The effect may be slight or so severe as to induce great contraction of the vessels, a high temperature and death. It is even conceivable that death may be produced almost with the suddenness of shock. In accordance with this we know that in scarlet fever for example, a fatal result is sometimes brought about before any pathognomonic signs of the disease show themselves. Cholera and certain snake poisons may also kill with extreme rapidity. The peculiarities of the poison, of the individual and of the tissues fully account for the conditions found in the special diseases produced. In every febrile disease there is evidence of peripheral mischief. Sæpiæmia, septicæmia, pyæmia and all the exanthemata show signs of a widespread irritation with a tendency to inflammation in certain tissues and organs.

FRANKLIN STREET, W.

A CASE OF REMOVAL OF A PORTION OF THE SIGMOID FLEXURE

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Within the last few years surgical literature has become very exuberant in matters relating to the excision of intestine and the union of divided bowel. The long list of intestinal anastomoses has been considerably extended. To many of simple mind it would appear that if two segments of bowel have to be sewn together there is little need for a suitable needle and cotton and some elementary knowledge of sewing. At the present time, however, this plausible

view meets with rebuke, and it is sought to be shown that the union of bowel involves an intricate elaboration of sewing which is far beyond the well practised art of the seamstress. In what may be termed the complexity of minor invention the intestinal suture can now take its place with the pessar and the obstetric forceps. To those to whom even Bor's modification of Cox's suture would not appeal there are offered a number of mechanical adjuncts to the process of suturing which are brought forward by clamorous advocates. These include bone plates, gut plates, gut rings, tubes, intestinal bobbin, intestinal buttons and the like. Amongst these appliances Senn's original bone plate is as a Triton amongst minnows. Dr Senn's invention opened up a new, ingenious and possibly valuable departure in abdominal surgery. Of the many imitations which have followed in its wake the majority are unimportant. Of the value of the bone plate it would be, I imagine, as yet premature to speak. The intestinal clamp after a brief existence, has passed into the background. It was an instrument for which there was no need. For one of the earliest forms of the clamp I was myself responsible, and although many varieties of the instrument have been invented since that effort I am satisfied to think that my apparatus still remains by far the worst.

I have ventured to publish the following case in order to show that simple measures in uniting bowel may possibly be attended by success and that the older method of operating so severely condemned by the advocates of the newest gut plate or bobbin, is not of necessity followed by the death of the patient.

A married woman aged forty-four was sent to the London Hospital on Nov 27th, 1891, by Mr Holroyde of Chatham. She had had excellent health until the previous June, when she had an attack of intestinal obstruction. This followed the eating of a considerable quantity of maize and was marked by colic, vomiting, constipation and distension of the abdomen. The patient was well again in fourteen days. A second but milder attack followed in August, 1892, and a third and much severer one in September. Between the attacks the bowels had responded readily to enemata and aperients. The symptoms of obstruction had passed away before the patient came to the hospital. On admission she was noted to be of healthy appearance and to be well nourished. The abdomen was soft, pendulous and distended. A very considerable quantity of fecal matter was evidently lodged in the colon. There was no ascites, no tumour could be detected, a few coils of bowel became occasionally visible, there was no vomiting and rectal and vaginal examination revealed nothing worthy of note. The treatment consisted of rest, daily massage of the abdomen, the daily use of enemata and aperients and the observance of a carefully selected diet. By these means the abdomen soon regained its normal size, an enormous quantity of fecal matter was evacuated, the appetite was restored and the patient left the hospital in sixteen days (i.e., on Dec. 13th) expressing herself as feeling quite well. The diagnosis which I caused to be entered in the notes was "stricture of the large intestine either in the descending colon or sigmoid flexure." No idea of operative interference at this stage was entertained by the patient. The absence of any of the usual causes of a simple stricture of the bowel led me to suppose that the stricture was due to epithelioma. Nothing more was seen or heard of the patient—who had moved from Mr Holroyde's district—until Nov 15th, 1892, when she again entered the hospital. During the year which had elapsed the phenomena of the previous six months had been repeated and intensified. There had been increasing constipation, a more constant use of aperients and more frequent and more severe obstructive attacks. Vomiting was common, the appetite was poor, the patient was haggard and anæmic, had wasted considerably and had become very weak. The abdomen was now greatly distended with ascitic fluid and measured forty-two inches at the level of the umbilicus. Much pain was complained of and vomiting was frequent and troublesome. Aperients merely added to the patient's distress and enemata produced very little effect upon the now evidently much distended intestine. Rest and opium gave the patient relief and served to prepare her for the operation which was carried out on Nov 25th. There was at no time any albumen in the urine. The abdomen was opened through a median incision three inches in length. The ascitic fluid which escaped filled one full sized bucket. An nodular epibolemic growth was found on the summit of the

¹⁶ Dr Wm. Roberts: *Urinary and Rectal Diseases*, p. 72.

sigmoid flexure. It presented the usual simple ring, had formed no adhesions to adjacent parts and had not extended beyond the bowel. The abdomen having been freed of all ascitic fluid, the affected loop of bowel was drawn out of the wound and numerous sponges were wedged around it so as to make the operation in every respect extra abdominal. The growth was found to involve the colon for one inch and a half of its extent, no enlarged glands were detected, the bowel above the stricture was greatly hypertrophied and was so distended as to equal the adult forearm in circumference. The gut below the stricture was thin, empty and contracted. The colon above and below the part to be excised was clamped by the fingers of my house surgeon, Mr Speechly. Seven inches of the sigmoid flexure were then cut away with scissors. The contents of this segment were received upon a special sponge. The interior of the bowel was cleaned. A V shaped portion of the mesocolon was excised with the bowel. This gap in the sigmoid mesentery was at once closed by two sutures of No 2 silk. The next step was to partly close the divided end of the greatly distended upper segment until the part left patent should correspond to the lumen of the collapsed bowel below. This was done by means of a continuous suture of the mucous membrane, followed by an outer line of Lembert's suture. For each suture No 1 silk braid was employed, a milliner's needle being used for the continuous suture and a small round Hagedorn's needle for the interrupted stitches. This upper segment of the bowel was as rigid as if made of leather. The two ends of the gut were now joined together in the same way—i.e., by a continuous suture of the mucous membrane and an outer line of Lembert's suture. Whilst I was introducing the interrupted stitches at one end my colleague Mr Openshaw was inserting them at the other. I should judge that about fifty sutures were employed. The assistant's fingers were now relaxed and the contents of the bowel allowed to pass through. It was apparent that the suture line was at all points water tight. The sutured bowel was dropped back into the abdomen and the wound in the parietes was closed in the usual way. The operation occupied one hour and a quarter. The patient was sick three times after the operation, and during the convalescence an injection of morphia was given on three occasions only. The highest temperature reached was 101° on the evening of the second day. The bowels first acted on the third day, when five liquid motions were passed. Between the third and the eighth days the bowels acted twenty-one times. In these motions, which were for the most part liquid, fifteen cherry stones which were swallowed in the previous summer were discovered. The parietal wound was first dressed on the tenth day, when it was found to be soundly healed and all the sutures were removed. On that day the patient was ordered fish. Subsequently to this a slough of mucous membrane containing one of the continuous sutures was discovered in a motion. The patient's recovery was uninterrupted but her discharge from the hospital was delayed by the tardy healing of a bed sore which had formed before the operation. She returned to the country on Jan 18th, 1893. She had been up and walking about for some time before this date, but the bedsores had not quite healed when she returned home. The bowels were now acting regularly without aperients, the abdomen was flat, there were no ascites, no pain and no vomiting. The stricture exhibited the ordinary features of cylindrical epithelioma, and the narrowed passage would barely admit a No 12 catheter.

Wimpole street, W

TWO CASES OF AURAL PYÆMIA TREATED BY OPERATION

By ALFRED PARKIN, M.S., M.D. LOND., F.R.C.S. ENG.,
SENIOR ASSISTANT SURGEON TO THE VICTORIA HOSPITAL, HULL.

It is only recently that cases of septic thrombosis of the lateral sinus following ear disease have been successfully treated. Cases are still recorded from time to time which progress to a fatal termination, and it is only by adoption of a radical method, such as that described and so successfully carried out by Mr W. Arbuthnot Lane,¹ that such a result can be avoided. The following two cases are good examples

of the value of ligaturing the internal jugular vein and removing septic matter from the lateral sinus in patients far advanced in pyæmia, whose recovery without interference was, to say the least, most doubtful.

CASE 1.—A child aged nine years was admitted into the Victoria Hospital, Hull, on Dec. 9th, 1892, suffering from great pain in the head and delirium. He had scarlet fever when three years of age, and had had headaches ever since. On Nov. 27th, 1892, he complained of earache on the right side, and during the succeeding nights was said to have been unconscious. On Dec. 1st otorrhœa came on, and he was sick once. He had diarrhœa on Dec. 7th and 8th, and he had had several bad attacks of shivering. On admission the patient seemed dull and stupid, he complained of severe pain all over the right side of the head. There was a foul discharge from the right ear, with tenderness over the mastoid and over the deep vessels of the neck, the tongue was dry and brown, the eyes were jaundiced and the liver was one inch below the ribs and very tender, there were numerous rales at the base of the right lung, with tubular breathing at one spot, both optic discs were swollen, the right more than the left. The evening temperature was 104.4°. Under chloroform a curved incision was made behind the right ear and a small collection of pus around the aperture of exit of the mastoid vein confirmed the diagnosis. The antrum was first opened by gouging away half an inch of hard bone, it was found to be full of foul pus, which was cleared away, as well as the contents of the middle ear, and the whole cavity disinfected. The bone bounding the lateral sinus was then gouged away and a quantity of extra dural pus extending along the lateral sinus groove was removed. The sinus was obviously thrombosed, consequently the internal jugular vein was exposed low down in the neck. The walls of the vein were so thickened by periphlebitis that it resembled more an empty carotid artery than the normal vein. The vein was tied as low down as possible in two places and the piece excised showed numerous flaky deposits on the intima. The cut ends of the vein were disinfected and the wound sewn up. The lateral sinus was then opened up, as much of the clot as possible scraped out, and the cavity treated with per chloride of mercury solution. A drainage tube was placed in contact with the sinus wall and a second one in the antrum. The next day the headache had gone and the patient's general condition had improved. Convalescence was slow, the lung signs gradually disappeared, the jaundice passed off and the only point of interest in the course of recovery was a rise of temperature to 104° on Dec. 18th, accompanied by severe headache, with marked œdema of the eyelids, especially on the right side. This seemed to indicate a probable extension of the thrombosis to the right cavernous sinus, but the symptoms subsided gradually along with the temperature. The neck wound and greater part of the mastoid wound healed by primary intention, and the patient, after being kept under observation until Feb. 15th, 1893, was discharged in excellent health, all wounds healed (very slight mucoid discharge from the right ear), and able to hear ordinary conversation with the affected ear quite well.

CASE 2.—An infant aged eleven months was admitted into the Victoria Hospital on Dec. 12th, 1892. Three months previously she was in the sanatorium for scarlet fever, and two months afterwards a discharge was first noticed from the left ear, followed in a few days by facial paralysis. She left the sanatorium fourteen days ago, and since then has had several fits, the last a few hours before admission. When admitted the child seemed in a serious condition, she was semi-conscious, her lips were blue, and she called out from time to time, putting her hand up to the left side of her head, the pulse was very rapid, the temperature was subnormal. There was a small swelling behind the left mastoid, about one inch and a half behind the ear, and a foul discharge from the ear itself, the left side of the face was paralysed, bronchial breathing and rales at the base of the left lung were audible, nothing abnormal could be felt in the neck. Under chloroform the small abscess at the back of the mastoid was opened and found to communicate through the foramen of the mastoid vein with the interior of the skull. The antrum was opened and it and the cavity of the middle ear were cleansed of a quantity of foul material. The lateral sinus was exposed and found to be full of broken down clot, which was all scraped away. The internal jugular vein was then exposed, found empty, and tied, there was no periphlebitis at the point of application of the ligature. The recovery in this case was more rapid than in that of the last patient. The facial paralysis and broncho-

¹ Treatment of a case of Pyæmia resulting from Disease of the Middle Ear. THE LANCET Jan. 21st, 1893. Of eight cases so treated seven recovered.

pneumonia gradually disappeared, and the child was discharged on Jan. 14th, 1893, quite well, with no otorrhoea, the wounds healed, and an increase of weight of one pound during the last fortnight of its stay in the hospital.

The diagnosis in the first of these cases was remarkably easy, the patient had symptoms of advanced pyæmia, with a foul otorrhoea, tender swelling over the deep vessels of the neck, and swollen optic discs. How long the septic thrombosis had existed is doubtful, but the case is of interest as indicating how radical treatment may save life even though the pyæmia may have reached an advanced stage. In the second case septic thrombosis of the sinus was only suspected when it was found that the small abscess cavity led through the mastoid vein aperture into the skull. In a patient so young (eleven months) the difficulties of both diagnosis and treatment are much increased, but it was remarkable how soon after the operation the child began to recover, and how rapidly convalescence took place. An early diagnosis followed by prompt removal of the septic foci, is the correct treatment in such cases, and there is no reason to doubt that such treatment may be advantageously applied to other cases of like nature—e.g., umbilical pyæmia. In doubtful cases of middle ear disease, after exploring the mastoid antrum with a gouge, the exposure and examination of the lateral sinus and posterior fossa of the skull, whilst adding greatly to the risk, may succeed in preventing dangerous developments, especially in the case of extra-dural abscesses, which seem to remain latent for some time and then suddenly give rise to meningitis or lateral sinus mischief.

Albion street, Hull.

THE COURSE OF THE INFERIOR LARYNGEAL NERVE

By W. RAMSAY SMITH, M.B., C.M., B.Sc. EDIN

THE late Dr. Herbert Davies's paper on this subject in THE LANCET of Jan. 21st is one of those demonstrations that seem so neat, and the truth of which seems so desirable, that one hesitates to criticise them in case they should break down. As an eminent physician remarked to me recently regarding another physiological problem, "I should feel sorry if it were proved wrong for it is such a pretty piece of physiology." I do not mean to say that Dr. Davies's demonstration is wrong, but I wish to point out one or two things pertinent to the subject that have to be considered before one can say that the explanation given can be said to be complete or proved. It appears to me that Dr. Davies's demonstration involves one or two assumptions that require proof and one or two omissions that must be taken into the calculation. To take them *seriatim* there are—

1. The assumption, running through the whole argument, that respiration is a result of the combined action of the diaphragm and the muscles that open and close the rima glottidis. So far as regards quiet breathing this is not proved. The rima glottidis does not appreciably change its size and shape in normal breathing, and the recurrent laryngeals are not necessary to ordinary breathing. Respiration can go on after section of both recurrent laryngeals the rima glottidis having the patency it usually acquires only after death. It would seem, therefore, that so far as regards ordinary respiration such combined and concerted action between the phrenic and recurrent laryngeal nerves as Dr. Davies supposed does not necessarily occur and it is questionable if it occurs at all. The whole demonstration might be made to turn upon this prime assumption and the proof of it. But in view of the interest that attaches to other parts of the paper I may be pardoned for passing on to them.

2. Suppose it were demonstrated that concerted action between the movements of the vocal cords and the diaphragm were necessary for respiration, the question arises—Is this brought about by the correspondence in length between the phrenic and the recurrent laryngeal nerves? Is it really necessary that the impulses in order to be effective, should pass over the same length of nerve and reach the respiratory nerve terminations at the same instant of time? A first glance seems to be a beautiful and exact demonstration, but two things have to be considered. The first is the difference in length between the right and left

recurrent laryngeal nerves. The impulse by the right must reach the right side of the larynx at a moment appreciably in advance of the impulse that reaches the left side by the left nerve. This difference is considerable, as any one may calculate. The second consideration, which is to the same effect, is that in cases where the right inferior laryngeal nerve does not "recur" but passes straight to the larynx (I refer to the not uncommon condition where the right subclavian artery arises from the arch of the aorta) the proper ratio of lengths of the right and left inferior laryngeals and the phrenics is enormously changed, and yet respiration and voice production go on as usual.

3. Another assumption, a very common one, that seems at first sight self-evident, is that the phrenic nerve by its distribution, in the human body on the inferior surface of the diaphragm is less subject to pressure than if it were distributed on the upper surface. This may or may not be true, but I imagine that any theory at any rate, the ordinary theory, advanced to prove it will be found to involve a nice fallacy in physics.

These three considerations, it appears to me, must be taken into account in estimating the value of Dr. Davies's posthumous contribution. I would add another—viz., the concerted action between the muscles supplied by the superior and the recurrent laryngeal nerves. The subject of the simultaneous innervation of antagonist muscles, especially those concerned in making delicate movements, is almost entirely overlooked in our text-books and in our teaching, but it furnishes the key to a great many difficult problems.

I am not prepared to say that the course of the recurrent laryngeal nerve is not to be explained with reference to the concerted action between the muscles supplied by it and the diaphragm supplied by the phrenic, but it seems to me that Dr. Davies's theory that it is to be so explained involves as many difficulties, if not more, than does the theory that the relative lengths of these nerves have nothing to do with the matter.

Theories of this description are very fascinating. They are often wrong but criticism of them not infrequently points the way to a truer explanation. The works of old masters in science, medicine and philosophy are full of them, some fanciful in the extreme, some evidently erroneous, some seemingly true, yet all requiring rigorous testing. To mention many of those theories would be tedious and useless. I may take, however from my note-books a few instances of theories taught even now that have probably as little foundation in fact as the theories that have been exploded ages ago.

1. Normal knock knee in women is said to be due to the greater width of the pelvis. Let it be granted that the pelvis is wider in women, as it is granted that women possess ovaries—how does width of pelvis explain knock knee? Does width of pelvis explain the greater degree of knock elbow in women?

2. In the act of swallowing the lower jaw, it is said, is firmly applied to the upper. This is said to be necessary in order that the muscles attached to the lower jaw may have a fixed point to act from. But swallowing is possible without fixing the lower jaw to the upper. It is not possible, however without fixing the tongue.

3. Sp. gelus says that the function of the buttocks is to form a cushion on which the body may be softly supported, for the purpose of divine cogitation. Is there any real advance on this theory?

4. It is taught that the great preponderance of muscles inserted on the inner aspect of the tibia is to be explained in relation to the unscrewing of the knee joint at the beginning of the movement of flexion. I have examined this theory in the *Journal of Anatomy and Physiology* and have ventured an explanation that may also cast some light upon the function of the buttocks.

5. The reflex pain in the knee in cases of hip-joint disease is explained by the fact that the obturator nerve supplies both. Is this a real explanation? In this connexion I may state that I have found that stimulation of a spot of skin about an inch to the left of the external occipital protuberance is associated with a corresponding sensation at the same instant referred to a spot just over the tip of the twelfth rib on the left side.

These are only a few instances but they illustrate how very necessary it is to apply a little logical criticism to every theory in anatomy and physiology however well established it may appear to be. Medical science is prone to suffer more from want of well-trained minds than from want of the quantity of investigation.

Inverleith-gardens, Edinburgh.

Clinical Notes :

MEDICAL, SURGICAL, OBSTETRICAL AND THERAPEUTICAL

ON THE ESTIMATION OF SUGAR IN URINE BY THE PICRIC ACID METHOD

By SIR GEORGE JOHNSON, M D LOND, F R S,
CONSULTING PHYSICIAN TO KING'S COLLEGE HOSPITAL AND PHYSICIAN
EXTRAORDINARY TO THE QUEEN

I AM anxious to explain to the profession my reasons for making a slight modification of the standard colour solution which for some years I have used in estimating the amount of sugar in urine. I have recently discovered that the manufacturer of my micro saccharometer has been in the habit of graduating the tube by *external* linear measurement and not by its *internal* capacity. The tubes employed not being of uniform calibre throughout their length, the result has been inaccurate graduation. The standard colour was arrived at by imitating the tint given by a four grain to the ounce solution of pure glucose, boiled with picric acid and potash, according to the method described by me in my two lectures on Albumen and Sugar testing¹ and in the chapter on Sugar testing in my "Medical Lectures and Essays,"² and subsequently diluting four times in the graduated tube. Now, as the upper divisions of the tube were more capacious than the lower, the result was a slight degree of over dilution and a somewhat paler colour than would have been produced in an accurately graduated tube. Inasmuch as the same tube and the same method of procedure were adopted in analysing urines, the results obtained by me have been practically correct. In order to avoid any error in future I have corrected the standard colour solution by imitating the tint produced by diluting a solution of pure glucose in an accurately graduated tube made for me by Mr C E Müller, who will guarantee the accuracy of all graduated tubes supplied by him for my micro saccharometer. The corrected formula for the ferric acetate standard is as follows: One drachm of liquor ferri perchloridi fort. (P B, sp gr 1.42), four drachms of acidum aceticum glaciale (P B, sp gr 1.058), two drachms of liquor ammoniæ (P B, sp gr 0.959), distilled water to four ounces. The only change in this formula consists in the addition of twenty minims of liquor ammoniæ in the four fluid ounces. Since this method of analysis gives extremely accurate results, it has appeared desirable to indicate even so slight a source of error as that which I have here described.

Saville row, W

DEATH OF A CRETIN AGED TWENTY YEARS

By ROBERT KIRK, M D GLASG,
PHYSICIAN TO THE DISPENSARY FOR DISEASES OF WOMEN, GLASGOW
WESTERN INFIRMARY

THIS case was one of five reported in THE LANCET of Aug 23rd and 30th, 1884, where an engraving of it is also shown (case of G B—). The patient was then twelve years of age and was only three feet in height. As he did not grow in the interval and became even more swollen, he presented at last an extraordinary illustration of myxœdema. The trunk was quite globular, the supra clavicular eminenes were enormous and the skin over most of the surface as flabby as that of the eyelids in an ordinary case of the affection. I looked up the case, which I had not seen for several years about a month ago, with the view of giving the patient the benefit of thyroid juice. I found, unfortunately, that he had been ailing for several weeks having lost appetite and become much duller than usual. His pulse was 100 and the temperature 99°, which for him indicated a febrile condition. I suspected some pulmonary affection but the respiratory sounds were so feeble that nothing could be elicited by auscultation and there seemed to be no dulness on percussion. I administered some slightly fried cow's thyroid for two days but as there was no improvement and the parents did not seem anxious to go on with it I desisted. He became gradually worse and in a few days more I found him nearly comatose, breathing stertorously with the

Cheyne-Stokes type of respiration. His mother said his breathing had always been of this character during sleep for the last twelve months. She added that he had often said of late that he would be "choked," although it had never seemed to me at any of my visits that there was much dyspnoea. It was perhaps to be regretted that the treatment was not pushed, as this was just one of the symptoms which ought to have been soon relieved by thyroid feeding. In two cases of myxœdema in adults at present under this treatment (one of which was published in THE LANCET of June 16th, 1888, as a "Case of Tetanic Spasms during Lactation in a Cretinoid Woman") I found the trouble arising from the constant necessity of swallowing mucus wonderfully relieved in two days. Briefly, it may be said that this cretin died of gradual suffocation, brought about by the great submucous œdema of the glottis and air passages. At the recent discussion in Edinburgh Dr Affleck remarked that in one of his cases he had found serious impediment to breathing from œdema of the fauces.

Partick, N B

ON EXCISION OF THE TONSILS

By H A LEDIARD, F R C S ENG &c,
SURGEON TO THE CUMBERLAND INFIRMARY, CARLISLE.

THIS operation is so commonly performed and so constantly needed that it seems not only impossible but unnecessary to add another line to what has already been written on the subject, but it may be that what I wish to say is not familiar to all practitioners. In removing the tonsils I have adhered to the clinical teaching of James Syme, using only a probe pointed curved bistoury and a vulsellum with three prongs to one blade and two to the other, with or without a self retaining tongue depressor. With regard to the guillotine, if that instrument is employed, it will be found that, whilst some tonsils are too large to enter the fenestra of an ordinary instrument, some mouths are too narrow for a large instrument, and therefore three sizes are made by instrument makers, thereby adding considerably to the surgical instrument bill of the surgeon who prefers that method. In using the simple tools that I have named I have made it a practice to remove the left tonsil with the right hand and the right tonsil with the left, holding the vulsellum in the reversed order. A little convenience I have adopted in place of putting a bit of strapping on that part of the bistoury which is not wanted is a piece of rubber tubing slipped over the blade of the knife so as to leave an inch bare at the probed end. This manœuvre is a great help, and it is more than probable that other surgeons have adopted a similar course although I have never seen it mentioned anywhere. It is not often that it is necessary to remove the tonsils of grown up persons, but I have had occasion to remove a tonsil for oft repeated abscesses in the substance with as good results as have followed removal for simple enlargement. As to an anæsthetic, many of my cases have been operated on under chloroform and as many without anything, the surgeon being usually influenced by the age of the patient and the wishes of the parent or guardian. Once I met with primary hæmorrhage lasting some hours and requiring a styptic application. Once only have I met with secondary hæmorrhage, it occurred on the fifth day and caused some alarm as the blood was swallowed and then brought up from the stomach. On March 8th, 1888, I read a few notes on excision of the tonsils before the Carlisle Medical Society, a society then flourishing but now in abeyance, and exhibited a number of tonsils which had been removed for chronic enlargement causing obstruction either to breathing, deglutition or speech, but in no instance have I ever operated when acute disease of the tonsil existed.

Lowther street, Carlisle.

DISLOCATION OF THE HIP OCCURRING IN ACUTE RHEUMATISM

By F E NICHOL, M B, B C CAMB, L.R.C.P LOND &c.

THE following case appears to be an instance of dislocation of the femur on to the dorsum illi occurring without trauma in a child suffering from acute rheumatism.

A female child aged seven years was brought to me o

¹ Smith, Elder and Co, London.

² J & A. Churchill, London.

April 29th, 1890 Her mother stated that for ten weeks the patient had been suffering from chorea. The movements had been most marked in the upper extremities and the tongue, but scarcely noticeable in the lower limbs. About a fortnight before bringing the child she noticed a deformity of the right hip-joint, with bending and shortening of the limb. The child cried when touched or moved, but was free from pain when left at rest. There had been no 'starting' at night. At the beginning of her illness there was swelling heat and pain in the left ankle and knee-joints. No record of temperature observations was obtained. On examination the child was found to be very anæmic and emaciated. She lay with her right thigh adducted and slightly flexed on the abdomen, the knee semi-flexed and the foot inverted, there was marked shortening and the trochanter was one inch above Nelaton's line. In fact, she presented the classical signs of dorsal dislocation of the hip-joint. Gentle attempts to straighten or manipulate the limb gave great pain. With the exception of a loud systolic murmur at the apex of the heart, which was conducted to the axilla and clearly organic, no other physical signs were evident. There were no choreic movements. Chloroform was administered by Dr Arthur Rowe, and no alteration was observed in the deformity. Reduction was easily effected by manipulation and a long outside splint applied. The subsequent history of the case was simple. The child's general health rapidly improved, the splint was removed in three weeks, and the joint was found to be healthy and freely movable. Four months later the father wrote that the child was "quite well save for a slight stiffness."

Cases of dislocation occurring in the course of acute rheumatism are so rarely recorded that it may be well to emphasise the salient features in this case. That it was a true dislocation is evidenced by the shortening flexion and inversion of the limb and by the other marked signs of luxation, by the persistence of these conditions under chloroform, by the immediate restoration of the limb to its proper form by operation and by its rapid and complete recovery. That the child had suffered from acute rheumatism seems clear from the history of pain and swelling of the joints, followed by an attack of chorea, endocarditis and marked anæmia. The mechanism of the occurrence is not quite clear, but it is probable that a certain amount of effusion occurs into the synovial cavity accompanied by inflammatory softening and stretching of the ligaments resulting in displacement of the head of the femur or, as was suggested in an annotation in *THE LANCET*,¹ it may be that owing to the diseased state of the joint the customary co-ordinate support of the muscles is wanting, and that as a result of the inordinate action of a certain group of muscles when the limb is in a 'vicious' attitude the dislocation may be brought about. I have been able to trace few similar cases, the most noteworthy are recorded by Stanley² in England and by Brown³ in America. The annotation in *THE LANCET* referred to above mentions seven cases recorded by M. Verneuil at the Société de Chirurgie, but gives no details.

Elmhurst terrace Margate

SQUAMOUS EPITHELIOMA OF THE EXTERNAL EAR

By W. S. CRAWFORD B.A. CANTAB. F.R.C.S. EDIN.,
ASSISTANT SURGEON LIVERPOOL CANCER AND SKIN HOSPITAL.

THE following case appears to be worth recording on account of the comparative rarity of the affection.

The patient from whom the growth was removed was a man aged sixty-four. He first noticed fourteen months ago a small wart in the upper part of the fossa of the helix. This increased very gradually in size until about seven months since when he received a blow on the side of his head from a cow's tail which caused the warty growth to bleed. After this time it grew more rapidly and spread over to the back part of the ear. It often bled and discharged matter continuously which decomposing gave rise to extreme fetor. When he came under my notice recently the whole of the external ear except the concha and lobule appeared to be composed of an irregular soft warty growth smeared over with fetid pus and a few small blood clots. The mass averaged an inch in thickness, there was very little deep ulceration, and the tumour was particularly soft and papillomatous in character. The growth

was removed by simply slicing the ear off, leaving only the deeper part of the concha, the antitragus and the lobule, no enlarged lymphatic glands could be felt. A microscopical examination of the specimen was made by my friend Mr. Thelwall Thomas. The sections showed well marked squamous epithelioma.

Mount Pleasant Liverpool.

SENSITIVENESS OF THE PERITONEUM

By T. R. JESSOP, F.R.C.S. ENG.,
CONSULTING SURGEON TO THE LEEDS GENERAL INFIRMARY

HAVING occasion a few days ago to perform inguinal colotomy, I asked Mr. Moynihan, our resident surgical officer, to test the sensitiveness of the exposed peritoneum so soon as the patient should have completely recovered from the anæsthetic. Mr. Moynihan informs me that he pricked, scratched and handled the exposed bowel (which appeared to be in no way altered from its normal condition), with the result that the patient declared her sensation was as if she were being 'lightly touched with a feather.' A similar result was obtained from like tests applied to the turned up edge of the parietal peritoneum. At the same time the patient felt acutely the prick of a pin applied to the skin in the neighbourhood of the wound and elsewhere.

Park square Leeds.

A Mirror

OF

HOSPITAL PRACTICE, BRITISH AND FOREIGN

Nulla enim est alia pro certo nocendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ST THOMAS'S HOSPITAL

TREATMENT OF THE ULCERATIVE LESION IN LARYNGEAL
TUBERCULOSIS, WITH SOME REMARKS ON THE
CONSTITUTIONAL TREATMENT BY LARGE
DOSES OF CREASOTE.

(Under the care of Dr F. SEMON.)

THE following cases of laryngeal, coupled with pulmonary, tuberculosis are quoted to show the effect produced by the internal administration of creasote in large doses and the energetic application of lactic acid locally. No case is reported that had not characteristic lung symptoms so that we can safely assume all the lesions were truly tubercular. It is absolutely essential that the creasote be perfectly pure, as otherwise it may cause dyspepsia, but in estimating the action of the drug we must not forget the frequency of that symptom in phthisis. It must be given immediately after meals and on no account whatever when the stomach is empty. It is taken either in pills or capsules containing one minim of creasote, but so long as the creasote is pure, either are equally efficacious. At first one minim after meals three times a day is given, then after a day or two two minims, and the dose is slowly increased until the patient is taking nine, twelve or even fifteen minims per diem. The solutions of lactic acid used are in the strength of 20 30 40 50 60 and 70 per cent. which are also gradually increased according to the toleration of the larynx and the necessities of the case. In most cases it is not necessary to employ solutions stronger than 40 to 50 per cent. It is applied two three or four times a week, as the case requires, and before every application the larynx is well brushed with a 20 per cent solution of cocaine. After a few minutes the acid is applied on absorbent wool firmly wrapped round rectangular laryngeal forceps. It must be rubbed into the ulcerating part with a very fair amount of force so that the breaking down tissue is removed and the acid comes into direct contact with the floors of the ulcers. Just as in a tuberculous joint the diseased tissue is forcibly scraped so must the larynx be treated, and herein lies the great advantage of firm forceps

¹ THE LANCET, vol. ii. 1893, p. 319.
² 3rd ed. and Churchill's Translation, 1841, p. 152.
³ Boston Medical Journal, p. 24b, 1870.

over a brush or pledget of wool. In cases where there is much oedema, it must first be allowed to subside and inhalations or insufflations of sedatives are to be preferred. It is needless to say that the application must be made under the guidance of the laryngeal mirror, not only because this affords the only certainty that the diseased parts are actually reached, but also because the forcible application of such strong lactic acid solutions to hitherto unaffected parts would be anything but an indifferent measure. In cases in which, in addition to ulceration, there is abundant granulation tissue it may be necessary, previously to the application of the lactic acid, to scrape away the granulations by means of Heryng's or Krause's laryngeal curette. For the following account we are indebted to Mr Marcus A. Dorman, clinical assistant to the throat department.

CASE 1 *Ulcerating swelling in inter arytenoid fold, left cord hidden by granulation tissue, left arytenoid swollen*—A woman aged twenty five

June 20th.—Lungs Left apex, impairment of resonance and some moist sounds. Two minims of creasote were ordered three times a day and the application of a 30 per cent. lactic acid solution twice a week.

July 21st.—All ulceration has disappeared, there is slight granulation tissue on the left ventricular band, but the cord is visible throughout its entire length, the voice is stronger and clearer.

The patient left for India on Aug. 6th, and wrote in October saying that she was still taking capsules, which caused no disagreeable effects. A medical man had examined her throat and stated that it was well. Her cough was much less troublesome and she slept well at night. The patient was then taking nine minims a day.

This case was fortunately treated at a very early stage and was rapidly relieved.

CASE 2 *Swelling and ulceration in inter arytenoid fold &c*—A woman aged twenty seven, occupation housework, weight 9st. 3lb.

Oct. 20th.—Lungs Impairment of resonance of the right apex, but no crepitations. hæmoptysis, night sweats, anæmia, voice weak and hoarse. A 20 per cent. solution of lactic acid was ordered twice a week and two minims of creasote three times a day.

Nov. 17th.—There is less ulceration, ordered nine minims of creasote daily.

Dec. 1st.—Lactic acid discontinued as no ulceration can be seen, weight 9st. 10lb. The hæmoptysis has ceased and the voice is clear and stronger.

This is also an early case and the increase in weight argues well for the treatment.

CASE 3 *Early ulceration of larynx*—A porter aged thirty seven.

July 12th.—The voice is hoarse. Lungs There is dulness at the right apex, with tubular breathing, also much cough and expectoration. A 30 per cent. solution of lactic acid was ordered three times a week and creasote.

Oct. 4th.—The ulcers are healed, and there is some granulation tissue on the cords. The lactic acid has been discontinued but nine minims of the creasote are to be given daily.

Nov. 24th.—The cough is better and there is less expectoration, the patient is gaining in weight. There is no lesion in the larynx.

Dec. 15th.—The voice is normal, the cords are pink, but no ulceration or granulation tissue is to be seen.

The lungs in this case were consolidated at the apices, but the symptoms were much relieved and the larynx healed.

CASE 4 *Much swelling and ulceration on epiglottis, small swelling in inter arytenoid fold, cords quite hidden by granulation tissue*—A man aged fifty two.

July 15th.—Lungs There are signs of extensive cavity in the right upper lobe, cough and expectoration are excessive, the voice is very thick and indistinct. The epiglottis was scraped with a curette and a 40 per cent. solution of lactic acid was applied, and a 30 per cent. solution to the interior of the larynx three times a week. Six minims of the creasote were ordered daily.

28th.—Both cords are visible, the epiglottis is still ulcerating and deglutition is very painful.

Aug. 11th.—There is no ulceration in the larynx, but there is still some on the epiglottis, supervention of melæna. The patient complains that he cannot swallow pills. The lactic acid ordered to be discontinued.

23rd.—There is much swelling of the interior of the larynx. The patient died on Sept. 2nd from general tuberculosis.

This case was so very far advanced that but little could be done. The ulcers in the larynx healed, but the general disease increased. The inability to take the creasote was very unfortunate.

CASE 5 *Ulceration on posterior part of right cord and inter arytenoid fold*—Telegraphist aged twenty seven, weight 8st. 11lb.

Oct. 5th.—Lungs Impairment of resonance, increased vocal resonance and metallic crepitations were audible at the front and back of the right upper lobe. The patient has suffered from hæmoptysis, cough and expectoration for two years. The voice has been thick for seven or eight weeks. A 30 per cent. solution of the lactic acid was ordered twice a week and six minims of creasote daily.

Nov. 11th.—The patient has not attended for three weeks and has not taken the creasote. There are much swelling and ulceration of the larynx and of the arytenoids, so that deglutition is impossible. The throat was painted with cocaine before each meal, which consisted of a pint of milk and two eggs beaten up in it. In three days the swelling had disappeared, and a 50 per cent. solution of the lactic acid was applied, whilst twelve minims of creasote were ordered daily.

24th.—The patient is much better. There is no ulceration and the weight is 8st. 10lb.

The increase of weight here is a proof of the amelioration of the patient's condition. It also illustrates the advantages of such a great excess of fats and proteids—i.e., ten ounces of proteids and fifteen ounces of fat—in enfeebled constitutions.

CASE 6 *Deep excavating ulcer on epiglottis, arytenoids swollen and ulceration in inter arytenoid fold, voice feeble but clear*—A plumber aged forty one. The patient attended at Brompton Hospital in July, 1885, under Dr. Acland. The notes of the case then were "Hæmoptysis sixteen weeks, with cough and expectoration, losing weight."

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July 6th.—The ulcer on the epiglottis was cicatrised. A 40 per cent. solution of lactic acid was ordered and three minims of creasote three times a day.

21st.—There is no ulceration in the larynx. The patient complains of pain shooting down the right side of the neck. He left London for Dover, and discontinued the creasote.

Sept. 4th.—His general condition is worse. There is a white swelling under the anterior part of both cords. There are no ulcers.

Oct. 1st.—He was admitted to hospital, and lactic acid has been continued as required, a 70 per cent. solution frequently being used, his voice is stronger.

Jan. 17th, 1893.—There is no ulceration, but he suffers from pain shooting to the ear, which seems to be temporarily relieved by strong solutions of lactic acid but resists the insufflation of morphia.

This case is undoubtedly slowly progressing, but the immense relief afforded by the lactic acid in deglutition is sufficient warrant for including it here.

CASE 7 *Great swelling of epiglottis which is covered with semi-transparent nodules and granulation tissue, both arytenoids enlarged, so that the cords are only just visible, abundant mucopurulent secretion, voice almost lost*—A shopman aged twenty nine.

Nov. 15th.—Lungs There are signs of cavity at the left apex. A 30 per cent. solution of the lactic acid was ordered three times a week, and two minims of creasote three times a day.

Dec. 7th.—The creasote was increased to three minims three times a day.

Dec. 15th.—The larynx is free from secretion and there are no ulcers to be seen.

Jan. 13th, 1893.—The general health of the patient is improved, he is less anæmic, and the swelling of the larynx has decreased.

This case presented great difficulty in inserting the forceps owing to the extreme swelling of the arytenoids.

CASE 8 *Small ulcerating swelling of inter-arytenoid fold*—A warehouseman aged twenty-seven.

Oct. 18th.—Lungs Crepitations are to be heard at the left apex. One minim of creasote was ordered three times a day and a 20 per cent. solution of the lactic acid twice a week.

Dec. 6th.—No ulceration is to be discerned in the larynx.

Jan. 3rd, 1893.—The patient has been in Brompton Hospital

for six weeks. His cough is better, there is less sputum and no ulceration.

This was an early case, the ulcers soon healed.

Remarks by Dr SEMON.—The above cases illustrate the method of treatment of pulmonary tuberculosis accompanied by laryngeal ulceration which has been practised for the last few years at the Throat Department of St. Thomas's Hospital. This method certainly is a great step in advance upon all the previous modes of treatment recommended during the last ten or fifteen years, and to which a trial has been given in the department. It will of course be understood that the constitutional treatment by large doses of creasote cannot claim in any way, so far as my experience is concerned, to be looked upon as a true specific against tuberculosis, but it can be positively stated from a large experience both in hospital, and even more in private practice, in which the patients more strictly attend to their health, that as a symptomatic treatment it excels every other form at present known. The patients gain in weight, their appetite improves, the night sweats diminish, the expectoration becomes less purulent, and in a good many cases, especially if not coming under observation at too late a period, the disease actually appears to become arrested. Such, at any rate, has been the case in several instances in my private practice, in which I have had the opportunity of watching the patients for periods of two or three years, during which some of them have taken up to 10,000 creasote capsules. Only in very rare instances patients cannot digest the creasote in such large doses, and I would especially warn against looking upon every occasional indigestion as an indication to the effect that the creasote treatment must at once be given up. But it is absolutely necessary, first, that the creasote preparation should be perfectly pure, and, secondly, that the capsules or pills be taken immediately after meals. Concerning the lactic acid treatment of the laryngeal complication, this, too, is a purely symptomatic one, and cannot claim to "cure" the laryngeal disease. Considering, however, how much laryngeal ulcerations, by producing pain, cough and dysphagia, contribute towards hastening the fatal end, any relief to these three serious symptoms is a distinct gain, and it can certainly be said of the lactic acid treatment, as described above, that it surpasses all methods previously recommended in attaining within a comparatively short time, and for a longer period than any other method known to me, the desired effect.

SOUTH DEVON AND EAST CORNWALL HOSPITAL, PLYMOUTH

PAROTITIS FOLLOWING INJURY TO THE ABDOMEN

(Under the care of Mr PAUL SWAIN)

In this case the inflammation of the parotid gland was noticed three weeks after the occurrence of an injury to the abdomen, the nature of which was uncertain. It is a point worthy of note that the severe vomiting ceased when the inflammation of the parotid gland was at its height, and convalescence rapidly followed. The close relationship which exists between the parotid gland and the contents of the abdomen is again exemplified in this case. Our readers will remember the paper on this subject by Mr S. Paget.¹ He found that out of 101 cases 10 followed injury or disease of the urinary tract, 18 of the abdominal wall, subperitoneal or pelvic cellular tissue or peritonium, 50 followed injury, disease or temporary derangement of the generative organs. In 93 out of the 101 cases it was an isolated event, not pyæmic. For the notes of this case we are indebted to Mr Stanley Thomas, house surgeon.

A child aged eleven years on Oct. 21st 1892, fell from a pony injuring her left leg and shaking herself severely. She was admitted to hospital on the 25th, and was found to be suffering from a separation of the lower epiphysis of the left femur. On the 27th she began to vomit. The bowels had not been opened since the day of the accident. The next day she still vomited frequently. The bowels were opened after an enema. On the 31st she seemed better and was able to take milk and lime water. On Nov. 6th she began to vomit again, and on the following day the sickness was very severe and the child looked extremely ill. The tongue was very dry and the abdomen very retracted except in the epigastric region

where there were some fulness, great tenderness and dulness on percussion. The temperature was 99.8° and the pulse very feeble. The child had become emaciated during the past few days. She was fed by nutrient enemata. On the 9th she continued to vomit large quantities of dark green fluid, vomiting as much as from eight to ten ounces at a time. On the 11th slight swelling and great tenderness were noticed in the region of the left parotid gland, to which fomentations were applied. The next day the parotid was very swollen and looked as if it would suppurate. On the 14th the sickness had stopped. The patient was then taking peptonised milk.

Nov. 24th.—The child has not suffered from sickness since the 14th, there is no tenderness across the abdomen, the dulness has gone and the inflammation of the parotid has quite subsided. The patient left the hospital on Dec. 9th quite well.

Medical Societies.

MEDICAL SOCIETY OF LONDON

Annual General Meeting—Supra-pubic Prostatectomy

THE annual general meeting of this Society was held on March 6th, the President, Mr Hutchinson, in the chair.

The annual report of the Council was submitted, together with statements from the treasurer and honorary librarian. The financial position was stated to be very satisfactory, and the number of Fellows had considerably increased during the past year. The Fothergillian Medal and Honorary Premium were awarded to Dr W. R. Gowers for his Contributions to Practical Medicine, and in especial recognition of his work on Diseases of the Nervous System. The following officers were elected for the ensuing year—President, Dr John Syer Bristowe. Vice Presidents, Dr F. de Havilland Hall, Dr F. T. Roberts, Mr D. H. Goodsall and Mr F. Treves. Treasurer, Mr A. E. Durham. Librarian, Dr W. H. Allchin. Honorary Secretaries, Dr W. Pasteur and Mr C. B. Lockwood. Honorary Secretary for Foreign Correspondence, Dr Heinrich Port. Council, Dr W. Collier (Oxford), Dr C. J. Callagrowth, Dr T. Colcott Fox, Dr A. E. Garrod, Dr Gerald S. Harper, Dr G. A. Heron, Dr Stephen Mackenzie, Dr E. D. Mapother, Dr H. Montague Murray, Dr Samuel West, Mr H. F. Bailey, Mr C. A. Ballance, Mr G. Buckston Browne, Mr J. Cahill, Mr F. Swinford Edwards, Mr J. Hutchinson, Mr A. Cooper Key, Mr A. Marmaduke Shield, Mr G. R. Turner, and Mr W. Whitehead (Manchester).

Mr BUCKSTON BROWNE read a paper on Supra-pubic Prostatectomy. He began by pointing out that surgically the prostate must be considered as one single organ, its division into lobes was purely arbitrary. It was a sexual organ and only became concerned in the function of micturition when it became hypertrophied or enlarged. Chronic prostatic hypertrophy was (1) intra-vesical, (2) extra-vesical, or (3) both intra and extra-vesical. The intra-vesical enlargement was the chief cause of difficulty in micturition. This intra-vesical growth was often like an egg projecting into the bladder, with the vesical urethral orifice at the apex of the egg. This ovoid projection might be deficient at any part of the urethral circumference. When wanting anteriorly and laterally, there was the so-called middle lobe enlargement, where from behind the urethral orifice there was a projecting prostatic mass acting like a bullet valve and often causing the bladder to be entirely dependent upon the use of a catheter for the voidance of its urine. More rarely the ovoid projection was only wanting in front, or it might be only on one side, in such cases it was nearly always continuously combined with a posterior enlargement, whilst so rarely as practically to be never met with, the intra-vesical growth was only found anteriorly to the urethral orifice. Intra-vesical prostatic outgrowths might be associated with considerable extra-vesical enlargement, and the latter might exist without the former and cause the patient so afflicted to be partially or completely dependent upon his catheter. He expressed the opinion that the intra-vesical growth alone could be removed with reasonable safety and with a fair prospect of recovery of the power of natural micturition. Without digital examination after supra-pubic cystotomy, it could only be approximately diagnosed. All urethrometers and the electric endoscope were useless and dangerous, the danger from their use being the likelihood of their causing severe urethral or catheter fever. There were, however, two

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Mr BUCKSTON BROWNE, in reply, said that many cases were on record where portions of the prostate had been removed by the forceps while extracting a stone, but these, as a rule, had not been followed by restoration of the powers of micturition, because the prostatic removal had not been complete. He had seen cases where there had been trouble from perineal fistula. Of the rubber catheter he would say that if it passed at all a child could do it, but that if it would not go easily the best surgeon would not be able to make it do so. Two pockets were often formed, one on each side of the veru montanum, and these often acted as a bar to soft instruments and might in a few cases necessitate the use of a silver one. With regard to the presence of kidney disease, it should be remembered that the cases were often desperate ones, not permitting of selection. In the perineal operation the cut must to a certain extent be in the dark, and he had seen severe hæmorrhage follow this method.

PATHOLOGICAL SOCIETY OF LONDON

Survey of Recent Work bearing on the Pathology of Cancer and Sarcoma

AN ordinary meeting of this Society was held on March 7th, the President, Sir George Humphry, in the chair.

The debate on the Pathology of Cancer and Sarcoma was resumed by Mr RUBERT BOYCE, who detailed the results of researches on cell inclusions in cancer which had been made by himself and Dr Arthur Giles. He showed micro-photographs illustrating some phases of cancer bodies which they had recently met with in a case of carcinoma of the pancreas. The sections were all equally and highly magnified, they were hardened in alcohol and stained with logwood. As Dr Galloway hinted at the last meeting, in his clear summary of his own broad views they were inclined, from want of stronger evidence, to believe that many of the parasitic bodies so recently described in cancer cells were not parasitic, but of the nature of endogenous cells. Whilst the processes of cell invagination and of nuclear and cell plasma degeneration had been discussed by those holding the parasitic view, endogenous cell formation had been briefly dismissed or left out of account, yet this process was the one *par excellence* which must be sharply differentiated from parasitic enclosures for the endogenous cell and the parasite were alike nucleated protoplasmic masses and the unicellular parasites of certain mollusca as well as those found occasionally in the alimentary tract and lungs of man, showed how very difficult it was to distinguish between the parasites and certain cells of the host. The confounding of the two in the past had led to curious mistakes upon both sides—notably on the one hand, in the mistaking of the parasites of the blood-corpuscles of the frog for active phenomena of the protoplasm of the corpuscles themselves, and, on the other hand, in regarding certain nuclear forms as parasites. Arnold who had done for pathological mitosis what Flemming did for the normal process, described and figured endogenous cell formation in the giant cells of marrow, of tuberculous glands and of neoplasms. A glance at his figures showed how closely this phenomenon resembled the appearances of parasitism as described by recent observers. Recently a paper had appeared from Arnold's laboratory by Müller in which the parasites described by Drs. Ruffer and Walker were regarded as typical examples of endogenous cell formation. Müller's figures agreed with the photographs they were showing and they thought that they were correct in saying that both were identical with the appearances described and figured by Drs. Ruffer and Walker, Dr Galloway, Mr Clarke and others. Their preparations showed—1. That the cell enclosures were met with in abnormal cells. They were giant forms, there was very often more than one nucleus, there was the very marked hyperchromatosis so characteristic of many forms (especially giant forms) of sarcoma and carcinoma cells. There were evident signs in many of the giant cells of drooping of the plasma. This droopical condition was represented by a loose reticulation of the cell substance or by the formation of groups of vacuoles. These observations accorded with those of Müller. 2. That the cell enclosures were single or multiple and that they usually commenced in or near the nucleus or that they occupied the place of the nucleus. These observations agreed with those of Arnold, in which the nucleus of the included cell was often connected by fine chromatin strands with the mother nucleus. 3. That the enclosures consisted either of little else than chromatin granules or of a nucleus and protoplasm. That the chromatin

of the enclosed cells might be broken up into several pieces or may appear as if about to divide. The chromatin might be separated by an enclosing vacuole from the rest of the cell, and often stained just like the nucleolus of the mother nucleus. 4. That there was a capsule which was regarded by Dr Ruffer as formed by the cancer cell itself. Dr Galloway observed that it might be radially striated and they had met with one very marked example of this. They called attention to a highly important and little known observation of Flemming—namely that the capsule of the fat cell was highly differentiated and might give a distinct staining reaction. With regard to the explanation of the thickened and striated capsules, perhaps some information might be obtained from Stilling's observation upon the encapsuled endogenous bodies found in the prostate. 5. That the capsule expanded, either by the growth of the enclosed body or by the accumulation of fluid. Capsules might, in fact, contain perfect cell enclosures, large or small granular masses (spore-like bodies) fine granular debris, or only fluid. They had found all connecting stages of these conditions. 6. That when several capsules were formed in the same cell or in close proximity a mulberry mass resulted comparable to the mulberry fat cells (derived from one cell) of certain of the lower animals. The partitions might however, rupture and fusion occur. 7. That capsules were met with enclosing more than one nucleated body. There might be two or more perfectly formed cells, or, on the other hand, very degenerate masses. These groups appeared to them a most suggestive feature from the point of view of parasitism. 8. That there was not the least trace of irritation or leucocytic reaction in the neighbourhood of the cell enclosures, and that the cancer cells in these parts did not show any greater signs of activity than elsewhere. From the above facts they did not feel justified in concluding that these bodies were parasites, and the great variety of appearances described by different observers seemed to them rather to favour the non parasitic view. Mr Boyce and Dr Giles were of opinion that Mr Clarke brought forward to the Society no evidence whatever to show that both cancer and sarcoma were caused by the parasites in the same sense that tubercle was caused by the tubercle bacilli. Cancer gave rise to metastasis, but the secondary foci, unlike tubercle and the infective processes generally, were grafts of the original focus, which did not, in so far as we at present knew, confer their malignancy or their infectivity on the tissues around. Mr Clarke and Dr Galloway admitted as parasites free nucleated bodies, described as amoeboid by Mr Clarke, in the intercellular spaces. Dr Ruffer and others, on the other hand, restricted the term 'parasite' to encapsuled cell enclosures. From the analogy of parasites in the lower animals the one view had at least as much in its favour as the other. Cancer bodies had been freely compared with and called "sporozoa", they would, however call attention to the following points in which cancer bodies and sporozoa were in marked contrast. 1. The intracellular sporozoa (sarcosporidia) seemed to be of a harmless nature, not causing inconvenience to their host (Bütschli), but rather living on terms of symbiosis, which is well illustrated in the paramœcium, where it might be even hereditary, but, to quote Dr Ruffer, 'the life of the parasites in the cancer cells is a precarious one, whilst they cause their hosts to perish.' 2. Sarcosporidia were nearly always large and visible to the naked eye. 3. The cystic, or resting stage of sporozoa was the only one represented at all definitely among cancer bodies. They never saw the active amoeboid stage, pseudopodia or ciliated forms as seen in Coccidia and Klossia. 4. The numerous round lenticular or falciform spores so characteristic of sporozoa, were never seen in cancer. 5. The bodies which had been compared to spores were clear, like fat globules and of unequal size. Spores of sarcosporidia were invariably of uniform size and generally granular. 6. The spores of gregarinids always had a silicious or chitinous capsule. To conclude they must still agree with what Virchow said eighteen years ago and which he had recently repeated—namely that as no previous and no subsequent stages of these bodies could be traced, therefore there was not sufficient evidence as yet in support of their parasitic nature.

Mr D ARCY POWER showed some photographs of cells of squamous epithelium taken from a rat in which a wound had been made and artificial irritation had been kept up for some time. The cells were much larger than the ordinary run of epithelial cells and they showed appearances which simulated those found in carcinoma.

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simple means of examination—namely, digital rectal examination and the careful measuring of the length of the urethra by means of the simple passage of the catheter. Any undue length of urethra would be an argument in favour of intra vesical hypertrophy, and particularly so if, per rectum, the prostate was felt but little enlarged. If much extra vesical growth was found, this must be allowed for in estimating the importance of the length of the urethra. If the urethra was nine inches long or more, and if not much growth could be felt by the rectum, there was almost sure to be intra vesical hypertrophy. Should it be deemed desirable to sound the patient for stone, further evidence for or against the presence of intra vesical growth would be obtained, for if such growth existed it would be found that the sound had to travel very much uphill into the bladder. It was then pointed out that a man with slight prostatic hypertrophy might live comfortably until exposed to any circumstances causing congestion of the prostate, and that then the catheter might be required, and used even for months, and the power of natural micturition return after all. Such cases must not be submitted to prostatectomy. Unhappily prostatic retention, whether partial or complete, generally came prepared to stay. The prospects of a man obliged to pass his urine by catheter were very good, and there was not the slightest need for him to undergo a severe operation such as prostatectomy at the outset of his catheter life. If he attended to the toilet of his bladder (which was briefly detailed) all would be well, unless the intra vesical growth was very large, such a growth would baffle every precaution and should be removed. In some rare cases regular habitual auto catheterism was so difficult that life under such conditions was not worth having. This difficulty might arise from the great curve of the prostatic urethra, the existence of false passages, and sometimes from the great ease with which the prostate would bleed if impinged upon and injured by the catheter, filling the catheter with blood clot, thus preventing the emptying of the bladder, and causing vesical spasm, as well as exhausting the patient by the constant loss of blood. Occasionally also patients were met with whose hands were crippled by rheumatism or by nervous affections, or who only possessed one hand, or whose special occupations made auto catheterism difficult or even almost impossible. In all these cases supra pubic prostatectomy since 1886 had become a practicable operation. The possibility of recovery of the bladder after complete removal of prostatic obstruction had been doubted by great authorities, but he gave full details of a case which was an answer in the affirmative, the gentleman operated upon being present at the meeting and the facts being beyond dispute. With reference to the details of the operation of supra pubic prostatectomy, the operation should always be extra peritoneal, all intra peritoneal operations must add largely to the risk, and all that was necessary could be done through an extra peritoneal incision. The bladder should always be opened upon a staff, if not, since the body of the prostate in these cases was frequently very large, it was very likely to be incised instead of the bladder. In removing the projecting prostate with forceps it should be twisted off in one piece if small, piecemeal if large. By twisting or torsion hæmorrhage was lessened. The intra vesical growth should alone be attacked, no good would come of trying to remove the lateral lobes, even in part. In clearing the vesical urethral orifice of all surrounding projecting prostatic tissue much assistance would be obtained by the presence of a metal sound in the urethra. Hæmorrhage was usually very free and would be all the more so if the prostate had been attacked with knife or scissors, the use of both of which instruments was deprecated. Dr Keyes had suggested a lint tampon drawn into the prostatic urethra by a thread through the urethra, but Mr Browne had found the bleeding sufficiently controlled by hot water irrigation, and all plugs must add to the patient's pain. In conclusion, he expressed his present opinions as follows: 1. Supra pubic prostatectomy should never be undertaken at the outset of catheter life unless regular auto catheterism was impossible. 2. The operation should never be undertaken as long as the ordinary catheter life was a tolerable one. 3. If, from any of the causes detailed catheter life became intolerable, supra pubic cystotomy should be resorted to. By means of this proceeding the bladder could be thoroughly explored and any stone removed, which in these cases might easily have escaped detection by the more usual methods of examination. The intra vesical growth, if it were found to exist, could be fully examined and removed if the operator thought right to do so. If he deemed removal undesirable, or if there was nothing which could be removed, he could

leave the patient with a supra pubic tube for permanent after wear, with the certainty that he would have materially improved the condition of the patient. 4. Should the operator decide to remove the prostatic obstruction, there was a very good prospect, but not a certainty, of the power of natural micturition being restored to the patient.

The PRESIDENT alluded to the impartial character of the paper and regarded the conclusions as both wise and safe. He agreed that it was not advisable to interfere with anything more than the intra vesical portion of the growth, though Mr McGill had undertaken the removal of a great deal more. Some excisions of the middle lobe had been performed accidentally during lithotomy, when portions of prostatic growth lay in front of the stone and had been pulled out by the forceps as the calculus was being extracted. He himself had once done this and as he found that other portions of growth were removable he cleared the whole floor of the bladder. This was done five years ago and the patient had made a perfect recovery. He agreed that enlargement of the prostate was a cause and not a consequence of bladder disease. He held that the old fashioned silver catheter was a bad instrument for routine use and that a rubber catheter was much the best, the patient easily introducing it himself and an upward curve of the urethra not interfering with its introduction.

Mr REGINALD HARRISON asked Mr Browne whether he had limited his operative procedures to the method which he had described. He himself recognised prostatic obstruction as of two kinds. 1. A growth into the bladder of considerable masses of prostatic tissue, causing not only obstruction but cystitis. These should be treated, like bladder tumours, by removal by supra pubic cystotomy. 2. In a certain proportion the obstruction was due to formation of "collars" or girths of prostatic tissue round the neck of the bladder occluding the urethral orifice like a vice. He would not apply the supra pubic operation to the latter class, such a procedure being protracted, severe and sanguinary. At the Congress at Copenhagen he had described a method he had adopted of dividing these collars in a few instances by a perineal incision and the introduction of a drainage-tube. Since that paper, which was read about ten years ago he had operated eighteen times, in ten instances with partial or complete restoration of micturition after long periods of constant catheterism, one of these cases he proceeded to give in detail. In the entire series he could not recall a single instance of perineal fistula or of severe hæmorrhage.

Mr BRUCE CLARK, referring to the question of diagnosis, said that the enlargement might be either in the course of the urethra, at the neck of the bladder, or in the bladder itself. If within the organ, the growth should always be removed. With a bimanual examination under chloroform one might get a very fair idea of the size of the prostate. The most difficult cases of all to deal with were those in which the urethra was compressed by an upgrowth from its floor. After making a supra pubic opening, the portion of prostate extending into the bladder might be, in some cases, successfully treated without removal by touching it with the galvanocautery or with Paquelin's instrument. He held that twisting out portions of prostate courted hæmorrhage, but that if the growth were got away by degrees, and the base touched with the cautery, not much blood need be lost.

Mr SWINFORD EDWARDS, after discussing the connexion between sexual exercise and prostatic hypertrophy remarked that the electric light was not a success as an aid to diagnosis. For this purpose he preferred a short-beaked sound with a finger in the rectum, which would often enable one to determine the kind of enlargement present. He had known the hypertrophy to be present before the age of fifty. If a pedunculated ingrowth were diagnosed, the sooner it were removed the better, and he thought that it was unwise to wait for the changes associated with catheter life. No attempt should be made to remove a "collar" by supra pubic prostatectomy.

Mr SHEILD asked whether silver catheters should be used at all in prostatic cases. He regarded them as dangerous instruments, especially if used on the first occasion when a catheter was required. The prostate varied much as to its vascular condition and was apt to be much engorged when a stone was present. Very severe hæmorrhage followed in the only two cases of prostatectomy he had witnessed. Everything depended on a proper selection of cases. Bad subjects were old and fat men, especially those with bronchitis and emphysema and those with kidney trouble, whether that were indicated by the presence of albuminuria or by the passage of an excessive quantity of urine with a low percentage of urea.

Mr BUCKSTON BROWNE, in reply, said that many cases were on record where portions of the prostate had been removed by the forceps while extracting a stone, but these, as a rule, had not been followed by restoration of the powers of micturition, because the prostatic removal had not been complete. He had seen cases where there had been trouble from perineal fistula. Of the rubber catheter he would say that if it passed at all a child could do it, but that if it would not go easily the best surgeon would not be able to make it do so. Two pockets were often formed, one on each side of the veru montanum, and these often acted as a bar to soft instruments and might in a few cases necessitate the use of a silver one. With regard to the presence of kidney disease, it should be remembered that the cases were often desperate ones, not permitting of selection. In the perineal operation the cut must to a certain extent be in the dark, and he had seen severe hæmorrhage follow this method.

PATHOLOGICAL SOCIETY OF LONDON

Survey of Recent Work bearing on the Pathology of Cancer and Sarcoma

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Dr WOODHEAD said that he felt somewhat disappointed that it had not been possible to adhere to the original pro-

gramme sketched at a former meeting of the Society. He felt that for several reasons it would have been more satisfactory had the sets of specimens (that formed the texts for the remarks of the various exponents of different views) been submitted to the Morbid Growths Committee. There had been demonstrated before the Society, and not of course under the most advantageous conditions, specimens on which those who were interested in the matters at issue were asked to express a definite, if not a final, opinion. For himself, he had to thank Mr Jackson Clarke for putting his specimens and time at his (Dr Woodhead's) disposal in order that he might have a clearer idea of what Mr Clarke's views were and how they were supported by the specimens he had prepared and demonstrated. He thought Mr Clarke's assertion that Russell's bodies were nothing but the result of degenerative changes was far too sweeping. It was undoubtedly the case that Russell had not differentiated sufficiently between the structures he had stained and described, some of which, no doubt, were the parasitic organisms described by Soudakewitch, Ruffer, Walker and others, although others were nothing more than altered, degenerated cells and in some cases red blood corpuscles, but Russell undoubtedly had recognised as parasitic certain structures which, in this country at any rate, had previously been passed over or their importance and characteristic structure neglected. He himself had not fully recognised how much of accuracy there was in Russell's work, nor probably had Russell himself until the appearance of Soudakewitch's paper, followed so rapidly by the exquisitely demonstrative preparations of Ruffer and Walker. Mr Clarke told them that Malassez, who after Thoma was one of the first to take up the subject, was not fully convinced until he had seen Damer's work, and it was possible that many of the members of this Pathological Society were in a similar state of mind (some might still remain in that condition) until they had seen the beautiful specimens demonstrated by Drs Ruffer and Plimmer at the last meeting. It had been remarked that pretty specimens were all very well, but that, after all, structural detail was the main thing to be sought in any histological specimen. He should be the last to contradict such a dictum, but he might add that, without very perfect fixing and hardening and accurate differential staining methods, by which alone pretty specimens could be ensured, no good detail could be brought out, and it was only as our methods had become perfected to their present condition that our recent more accurate knowledge of cell and nuclear structure had been obtained. The very fact, however, that we now often saw appearances with which we had hitherto been unfamiliar was a too frequent source of error, as a result of which nuclear structures or various degenerative changes had often been mistaken for parasitic structures, whilst, on the other hand, he had a not very limited experience of an equally common mistake—the confounding of parasites imperfectly fixed and stained with nuclei. Now this was important, for several observers, who for long were unable to satisfy themselves that they had seen one of these parasites, on going over their specimens again—he himself had been in this position, so he felt he could speak with more certainty—were satisfied that parasites were undoubtedly present. All this must be carefully borne in mind in dealing with this question. The other morning he had received a note and a paper from Mr Gustav Mann, assistant to the Professor of Physiology in the University of Edinburgh, certainly an expert in the preparation of histological specimens, both vegetable and animal, who pointed out that he had been able to demonstrate in many of his specimens nuclei which he could not distinguish from the parasitic protozoa of the epithelial cells of cancer as described by Drs Ruffer, Walker and Galloway. The nuclei, as figured by him, were certainly very like those protozoa with the appearances of which we are now familiar, but on comparing the two sets of structures it would be seen that there were essential points of difference as regarded their relation both to the cell protoplasm and to structures which could be recognised as ordinary nuclei. Of course it had been objected that the radiating streak in the parasitic bodies was not peculiar to them, and certainly any one who had carefully examined the lines radiating from the nucleus of an epithelial cell of the cuticle as a centre through and beyond the protoplasm to form the prickles with which every histologist was familiar would accept this statement as accurate, but he would reserve to himself the right of arguing that in the organised parasitic cell there must be several features which it had in common with other animal cells, though they were built up into a highly organised organ or tissue. We must expect to find certain points of

similarity, otherwise we should not be justified in looking upon the parasite as an animal cell, or perhaps even as a living cell at all. We could not insist too strongly, then, that now we had such good histological methods at command we must not be satisfied with impressionist pictures or specimens which showed not what might actually be brought out, but what the investigator might feel compelled to read into them. As an example of what was too commonly accepted, the case of molluscum contagiosum might be instanced. Parasites had been described as present in this condition, and no doubt in many cases there were bodies which had not previously been described, but he for one had never been able to convince himself that the so-called parasites were not epithelial cells, in which certain changes, degenerative, no doubt, had taken place. Mr Clarke had referred to Sjöbering's illustrations, which by many workers had been described as too diagrammatic—a criticism which at one time he would have willingly endorsed, but now he should be very careful indeed in making such a comment, as, after seeing the various specimens recently prepared and demonstrated by Dr Ruffer and Mr Plimmer, he was prepared for much in the way of diagrammatic specimens. It would scarcely be necessary for him to repeat what had already been said concerning the pseudo parasites, included and degenerated cells, irregular mitoses and the like, but he did wish to point out that when he spoke of these parasites more than a year ago he was wishing to draw attention to the analogous process in the liver of the rabbit and the kidney of the snail, and in describing the parasites as oocidial he wished to draw attention to the process rather than to the specific and definite form of the parasite, which, as it had only just had special attention drawn to it, was still undescribed in detail, and not only were the methods of development and reproduction still unknown, but its very structure was as yet imperfectly made out. It was, he confessed, somewhat rash to draw an analogy which should only have been suggested. He could not accept it as yet proved that we knew anything about the mode of reproduction or method of action of these parasites, and after a careful examination of some of Mr Clarke's specimens under the favourable conditions afforded by Mr Clarke's kindness he was still unable to accept his conclusions. In the first place—and he was sure both Mr Clarke and the members of the Society would accept his criticism in the spirit in which it was offered—he had not been able to make anything out in these specimens for which some other explanation than that they were parasites could not be offered. For instance, he believed that what Mr Clarke described and demonstrated as ripe psorosperms—using that term as Mr Clarke himself used it—in an epithelioma were what had already been described by numerous observers, but which, so far as his experience would allow him to speak, were merely included and degenerated cells—an explanation of all "parasitic" bodies offered by Welch. As to the ripe "psorosperms" in connexion with sarcoma of the femur shown at the last meeting, he had again to join issue with Mr Clarke, the plasmodial form described by him was a plasmodium, but it was of that kind known as the giant-cell of the myeloid sarcoma, which so frequently contained not only blood pigment, but also red blood corpuscles in various stages of degeneration, the larger size on which such stress was laid being the result of the degenerative changes that ensued on the death of the corpuscle. He himself had described these swollen red blood corpuscles some twelve years ago. Again, in another sarcoma in which Mr Jackson Clarke described masses of ripe psorosperms, he believed that these were simply areas of degenerated sarcoma tissue—such areas as were common in every sarcoma, especially when hemorrhages were scattered through them. The "spores" that were found near these areas, and also in the neighbourhood of the degenerating epithelial cells in the epithelioma, could not, to his mind, be in any feature different from leucocytes of various forms such as were invariably found in the region of devitalised tissues. It would, in any case, be necessary to bring forward much more evidence than had up to the present been offered to induce most histologists to accept them as spores of sporozoa rather than as phagocytic leucocytes. It would not do for us to argue from the general to the special in this matter, and it was certainly most dangerous for us to say that the parasite which we assumed set up the cancerous proliferation resembled, as regarded life history, methods of multiplication, structure and function, those found by Mr Clarke in the ureter or those described by other observers in the kidney of the snail or the liver of the rabbit. These two latter differed in most marked features and essential details from one another, and

we should expect that the parasites in other positions might present equally distinctive characters. Whoever had right on his side in this matter it must be recognised that the protozoa described by Dr Ruffer and Dr Galloway and their colleagues were essentially different from those described by Mr Clarke. Much valuable work on the parasitic origin of cancer had been brought before the Society. In 1877 Messrs Ballance and Shattock indicated the nature of what they thought might be the *causa causans* of the conversion of benign into malignant epithelial cells and, so far, their indications appeared to have been correct. Then in turn Russell, Bowlby and Hutchinson, Delépine, and D'Arcy Power (members of this Society) had all contributed to our knowledge, and, lastly, came this interesting discussion. He was yet far from convinced that Mr Clarke had right on his side. His senses would not go along with him in that direction, although Mr Clarke's specimens that evening were infinitely better demonstrated than they had been on any previous occasion. It might be that the speaker was more familiar with the parasites described by Dr Ruffer and others but in these there was something which he could grasp and follow out, whilst, on the other hand, he felt that satisfactory explanations, other than that the bodies described were parasitic, might be offered of all the appearances Mr Clarke had set before them.

Mr BALLANCE exhibited for Mr Shattock and himself micro-photographs showing certain appearances observed by them in Incubated Scirrhus of the Breast. In May, 1888, Mr Shattock and he read a paper before the Society on the same subject and they had lately repeated the observations. The appearances consisted in budding of the chromatin of certain elements in the tissue, and though seen apart from incubation they were especially evident after it. Their present experiments consisted in incubating portions of scirrhus for different periods in sterilised milk and glycerine at the room temperature. After a few days the nuclei of the epithelial cells ceased to take nuclear stains, but there remained certain elements which stained intensely with logwood, and green with Biondi's reagent, in this resembling nuclear chromatin. The elements were surrounded by an unstained envelope, and the stained centre underwent a process of fission and budding whilst after six weeks' incubation the section was remarkably full of them. Whatever their nature, they clearly underwent multiplication after the death of the other elements. Professor Sherrington had made the observation that in potassium oxalate the white blood-corpuscles would remain alive for certainly twenty four days. Whether the bodies in question were leucocytes or some form of connective tissue cell or whether they were parasitic in nature the authors at present left for further observations. In their previous paper they had suggested a comparison between the extrusion of nuclear chromatin in carcinoma and the extrusion of the polar bodies preparatory to fertilisation of the ovum and of the seminal granules from the spermatozoa, each form of cell being originally as Balfour had suggested, hermaphroditic, and they had also conceived of a hypothetical protozoon in some way conjugating with the tissue cells. Stricker had advanced the idea of sexual differences in the body cells, and more lately Auerbach had endeavoured to show that the cyanophile component of nuclear substance was male and the erythro-philic female, for in osseous fishes and batrachia the ova took the red stain the head of the spermatozoon the blue. In sections of carcinoma they had seen bodies containing a red and a green nucleus under Biondi's reagent, the red corresponding in general appearance with the nucleus of the body described by Soudakewich and Drs. Ruffer and Walker. Dr Ruffer had also figured the nucleus of the parasite as blue, though this was exceptional. It remained for investigation whether a sexual process of some kind did not obtain either in the parasite itself or between the parasite and tissue cells. Whether the multiplying bodies the authors had found in incubated scirrhus were in any way related to the parasite, as this was described by Soudakewich Dr Ruffer and others, they were at present unable to say.

(To be continued.)

OTHER METROPOLITAN MEDICAL SOCIETIES

EPIDEMIOLOGICAL SOCIETY.—A meeting of this Society was held on Feb 15th Dr J F Payne, President in the chair.—Mr R. D. R. SWETING read a paper on Post

Scarlatinal Diphtheria. He said that an analysis of the reports of the fever hospitals of the Metropolitan Asylums Board for the four years 1884-87, before cases of diphtheria were received, and for the four years 1889-92, after this disease was admitted, showed that during the latter period the incidence of post-scarlatinal diphtheria had enormously increased, and that it had become terribly fatal. The incidence had been greatest at the Western Hospital and least at the North-Western Hospital. At the former, owing to the extent to which the drafting away of convalescents had been carried out, the aggregation of acute cases alike of scarlet fever and of diphtheria, had been greatest the North Western Hospital presenting the reverse conditions in every respect. There could then be little doubt as to the connexion between post-scarlatinal diphtheria and aggregation of acute cases. At the Northern Convalescent Hospital the incidence of post-scarlatinal diphtheria had been pretty uniform during the whole period of its existence—viz., 1867-92—the admission of primary diphtheria in 1889 having apparently made but little difference. It was remarkable that this complication usually occurred at a late period of convalescence, in more than half the cases after the lapse of four weeks from admission. The monthly prevalence, the age incidence and fatality all showed that the disease was true diphtheria and not a mere phase of scarlet fever. Post-scarlatinal diphtheria had begun to appear at the new convalescent camp at Gore Farm, although no cases of simple diphtheria were received there. In analysing the cases at the several hospitals it was found that very few could be explained by infection from outside or by concurrent incubation or by personal infection from cases already in the wards, nor could the condition of the wards or defects of drainage or of ventilation be adduced as causes. It did not appear to be attributable to faults of administration, though from the absence of complete separation of the medical staff these could not be altogether excluded. He suggested that possibly under the influence of aggregation the poisons of scarlet fever and diphtheria acquired an altered character and increase of potency rendering them more diffusible or perhaps even transmissible, in other words that the line of demarcation between the two being feebly marked the efficient cause or specific poison of scarlet fever must under certain environments be transmuted into that of diphtheria.—Dr WILLOUGHBY said that under the circumstances there could be no doubt that the disease in question was true diphtheria and not a mere complication of scarlet fever, but, though a believer in evolution in the remote past he was loth to admit transmutation and would rather compare the apparent *de novo* origin of these cases with that of erysipelas. Both were facultative parasites or, as he preferred calling them, extra corporeal contagia, widely diffused and only needing for their development a suitable soil, which diphtheria found to perfection in the post-scarlatinal throat.—Dr THORNE THORNE, whilst fully recognising the receptivity of such throats to the poison of diphtheria, as Dr Greswell had so forcibly shown doubted the ubiquity, as Dr Willoughby had expressed it, of the diphtheritic microbe, for during seventeen years out of twenty, during which over 6000 cases of scarlet fever had been treated in the London Fever Hospital, there had been none of diphtheria, and at St Thomas's Hospital, where 383 cases of diphtheria and 134 of scarlet fever had been treated in the same pavilion but in absolutely isolated wards there had been only one instance of diphtheria in a fever patient. He believed errors in administration to be the whole explanation.—Dr CAIGER said that he thought it rather a question of environment and weather conditions for at the South Western Hospital they had had no cases amongst 2000 cases of scarlet fever in 1891 and only eighteen in 1892 under still greater pressure, but there had been a good deal at Winchmore Hill as well as at Gore Farm, no diphtheria cases being received at either place.—Dr MCCOMBIE defended the administration of the hospital observing that few children were admitted into the London Fever Hospital and that the mortality in post-scarlatinal measles also was very high. He doubted the great influence ascribed to aggregation and had admitted cases of post-scarlatinal diphtheria which had been developed in the home.—Dr HORWOOD stated that on each of the two occasions in which post-scarlatinal diphtheria had broken out in the London Fever Hospital serious defects in the drains had been detected the disease disappearing as soon as these were remedied.—Dr MATTHEWS considered that the site and surroundings were the most efficient factors, adducing the case of Gore Farm, where no diphtheria, as such, was ad-

mitted, but where in the male block, situated on a dry soil, one case in seventy five, and in that for females, on a damp and lower site, one in twenty eight had been attacked.—Mr Shirley Murphy, Dr Goodall and Dr K. McLeod having also taken part in the discussion, Mr Sweeting replied.

HARVIAN SOCIETY—The meeting on Feb 16th was devoted to the exhibition of specimens, Mr Malcolm Morris, President, in the chair.—The PRESIDENT showed a case of Pityriasis Rubra in a woman aged twenty six who came under his care ten months ago with a general eczema. She was admitted to St. Mary's Hospital, and whilst under treatment the present condition developed. There was considerable desquamation, and the hair and nails came out. This was accompanied by pyrexia and an extremely rapid pulse, the legs became cedematous, anorexia and sleeplessness were prominent, there was no albuminuria. At present the hair of the head is about four inches long and the nails have grown. There is still some desquamation and the whole surface is red, there is no pyrexia. The constitutional symptoms have all abated and there is general improvement. The President also showed a case of Lupus Erythematosus in a girl who had been under his care for fourteen months. She was treated with internal remedies for six months with no effect, external remedies were afterwards tried with considerable benefit. He pointed out how difficult some varieties of this disease were to cure from the depth to which the sebaceous glands were implicated.—Mr ROUGHTON showed a patient who, when vaulting the table from the "storming board" in a gymnasium, alighted on the edge of the mat, twisting his foot inwards. The leader of the gymnasium "put his foot back," and the patient was then brought to the Royal Free Hospital. Fracture of the astragalus was suspected, probably through the external part of the head.—Mr ATWOOD THORNE showed a case of Consolidated Aneurysm in a man aged forty six, a plasterer, who was admitted into St. Mary's Hospital, under the care of Mr Silcock, on Dec 20th, 1892. There was then a large pulsating tumour to be felt on the right side above the outer two thirds of the clavicle, below the clavicle for the same distance, and in the axilla. There was also dulness in the outer part of the upper two intercostal spaces. The right radial pulse was somewhat delayed, was fuller and more compressible than the left. As the case was considered to be one of aneurysm of the axillary and the third part of the subclavian arteries, an attempt was made to ligature the first or second part of the subclavian. However, on dissecting down to the artery above the clavicle the first part of the subclavian was found to be affected, the artery here being about an inch and a half in diameter. The idea of ligaturing the artery was consequently abandoned and the wound closed. On removing the dressings two days later the wound was found to be septic. The pulsation in the subclavian and axillary regions diminished day by day and the pulse at the wrist was gradually lost. Mr Thorne then demonstrated the case. The wound was quite closed. There was slight pulsation in the parts previously affected, no pulsation in the radial and very slight pulsation in the ulnar at the wrist. An opinion was expressed that the septic change in the wound had some influence in the alteration of the aneurysm.—Dr BOXALL showed a patient aged forty-one who had a well defined hard mobile swelling in the right ovarian region. By internal examination the growth was found to spring by a short pedicle from the right side of the fundus, the uterus itself was in the normal position and was not enlarged, the sound passing barely three inches in the normal direction. She had one child, at the eighth month, three years and a quarter ago, and whilst carrying had noticed an unusual swelling in the abdomen. At the time of delivery the growth was of such a size that her medical attendant at first thought there might be another child, and after consultation expressed the opinion that she would be dead in eighteen months if it were not operated upon. She has been under observation as an out-patient at the Middlesex Hospital since six weeks after delivery, and from that time to this has never experienced the slightest inconvenience from the presence of the tumour. The points to which particular attention was directed are (1) the variation and, on the whole, diminution in the size of the tumour (to the extent of one inch both in the longest and shortest measurements), though no active treatment has been pursued, (2) the possibility that a tumour of this size (foetal head) might slip into the pelvis, there become impacted and give rise to urgent pressure symptoms. This is here prevented by the short attachment to the fundus and by the fact that the uterus maintains its normal position and acts as an

efficient support. Comment was made upon the difficulty of distinguishing at the time of delivery such a tumour from an ovarian cyst.

SOCIETY OF MEDICAL OFFICERS OF HEALTH—A meeting of this Society was held on Feb 20th, Mr Shirley F. Murphy, President, in the chair.—Dr REGINALD DUDFIELD read a paper on the Sanitary Certification of Houses, as practised by the local authority at Eastbourne, and, so far as he knew, at no other town except Teignmouth, comparing the requirements with the recommendations of the model by laws of the Local Government Board, THE LANCET Commission of last year and Dr Farquharson's Bill, all of which came short of these in stringency. The connexion of the drains of new houses with the older ones was made by the workmen in the employment of the corporation directed by the borough engineer, for house drains &c the building surveyor was responsible, whilst the medical officer of health and his inspectors took cognisance of all old—i.e., existing—buildings. This division of labour worked well, and the system of inspection, registration and certification had grown up by degrees and was still being improved. The certificates were issued only in respect of hotels and lodging and private houses rented at £50 and upwards, and amongst the conditions insisted on were the interception and ventilation of the drains, disconnection of waste and rain water pipes, ventilation and anti siphoning of soil pipes, separate water service for w.c.'s, pan closets being prohibited, and the testing of all drains and soil pipes, the former by water, but without artificial head or pressure, the latter by driven smoke. The minimum fall of house drains allowed was $1\frac{1}{2}$ in 10. This was, he remarked, unusually great, but, on the other hand, the only water pressure applied was that to which the pipes would be actually subjected—viz., that of the gulleys themselves. A register was kept of all arrangements and tests applied to them, and the certificate, which testified to the condition at the date of inspection only, was valid for one year. New houses were certified when finished if desired, old ones only on application from owner or occupier, and after the drains had been opened up, tested and, if found defective, relaid throughout. He hoped to institute a system of periodical reinspection before long, but already the favour with which certified houses were regarded by visitors and even the opposition at first made by house agents and some owners were evidence of the advantages accruing therefrom. The expense rarely devolved on the tenant, and very often notices for the "abatement of nuisances" were followed by requests for certification, thus ensuring the thoroughness of the work done. He was strongly of opinion that the sanitary authority should alone grant certificates and not accept them from irresponsible persons, as under Dr Farquharson's Bill, which would, he believed prove a failure.—Professor CORFIELD feared that should such a practice as that described by Dr Dudfield become general, the authorities would be exposed to actions at law if, in the event of typhoid fever occurring in a certified house, an expert should be able to discover any defect in a drain, and Mr Keith Young was of the same opinion, though fully appreciating the value of the register to persons seeking houses.—Dr L. PARKES thought that the system though excellent in itself and adapted to places like Eastbourne could not be extended to London and similar large towns but felt that the site, ventilation &c should also be taken into account.—Drs GIBSON, KENWOOD and WILLOUGHBY discussed the ventilation and testing of drains, and Dr DUDFIELD, replying to Dr Corfield, pointed out that the certificate guaranteed the soundness of the drains at the time of inspection only, so that no action could be for anything that might occur subsequently.

PROVINCIAL MEDICAL SOCIETIES

PLYMOUTH MEDICAL SOCIETY—At a meeting held on Feb 18th under the presidency of Mr Leah (Stonehouse), Mr F. EVERARD ROW read a paper in which he reviewed the Common Objects of the Hospital Ward, commencing with varicocele. Treatment of this condition was advocated by the excision of a portion of the veins between ligatures, with subsequent shortening of the cord. For varicose veins Mr Row recommended ligation of the vein at several points, and for hæmorrhoids considered the ligature equal to other methods. Spasmodic and fibrous strictures of the male urethra and the subject of radical cure of hernia,

acquired and congenital, were discussed, preference for Mitchell Banks method in the latter cases being expressed. The flap-splitting operation for ruptured perineum was advocated. A consideration of the use of drainage tubes concluded this eminently practical paper, in the discussion following which Messrs Jackson, Bulteel, Woolcombe and Swain joined.—A clinical evening was held on March 1st, at which Dr Fox showed a case of Diabetes with marked Choroiditis.—Mr WOOLCOMBE brought forward a man aged fifty four with Paralysis of the Right Arm due to Lead Poisoning and left facial paralysis of uncertain causation, which was now improving, the patient also had an exostosis growing from the humerus near the musculo-spiral nerve. Mr Woolcombe also exhibited for Mr Lucy a boy aged four wearing a boot made by a local bootmaker also the subject of Syne's amputation. Mr Woolcombe demonstrated a uterus with a large fibroid mass attached removed by hysterectomy. During operation the thinned and drawn up bladder was twice opened and sutured, and an excellent recovery resulted.—Dr WILLOUGHBY showed a Carneous Mole passed during the eighth week of pregnancy.—Mr Row showed a Pocket Midwifery Case made from his designs by Messrs Allen and Hanburys.—Mr WHITEFORD exhibited a photo of a Urine-testing Table designed by Mr R. Stanley Thomas and now in use in the wards of the South Devon Hospital.

SHEFFIELD MEDICO CHIRURGICAL SOCIETY—At the meeting on Feb 23rd, the PRESIDENT (Mr Simeon Snell) introduced two cases of Hemianopia—both men. In one there was word blindness also, in the other right lateral hemianopia was followed by loss of sight on the remaining half of the retina, with the exception of a small area on the left side of the fixation point. Mr Snell remarked on the pupil reaction in these cases and said that in the first case, where the lesion was a cortical one, the pupil responded to light, whilst in the second the 'inaction' was demonstrated in all parts of the retina except over the central part, which was intact, and where the pupil acted to light thrown upon it. This would indicate that the lesion was on the peripheral side of the corpora quadrigemina.—Mr DALE JAMES showed a case of Exfoliative Dermatitis. The disease began as seborrhœic eczema when the patient now aged ten years was three months old. The case illustrated the change of type that frequently takes place in very chronic eczema and also Unna's contention that general exfoliative dermatitis is commonly derived from seborrhœa of the scalp.—Dr GEORGE WILKINSON showed for Dr CLAPHAM two cases from the Sheffield Public Hospital. They were sisters and had worked with lead. Both were affected with rapid clonic spasms on rising to the erect posture, on walking and also to a certain extent on performing other movements. The knee-jerks were exaggerated there was a peculiar affection of speech, a dull mental condition and all actions were done very deliberately. The diagnosis of the cases between saltatorial spasm, myoclonus multiplex, insular sclerosis and hysteria was discussed.—Mr GAERARD showed 1 oz. of Water removed by lithotomy and a Uric acid Calculus $2\frac{1}{2} \times 2 \times 1\frac{1}{2}$ in. and $3\frac{1}{2}$ oz. in weight removed by supra pubic lithotomy.—Mr FRANK HARRISON showed an extensive collection of Dental anomalies.—Dr. Ruxton and Adair showed several Brains prepared by Guicomini's process illustrating cerebral softening internal hydrocephalus, general paralysis of the insane &c. They also showed microscopic specimens of nuclear vacuolation of the cells of the second layer of the cerebral cortex from cases of epilepsy spider cells from cases of alcoholic insanity fuscous degeneration of nerve cells and slides illustrating the existence of marked changes in the peripheral nerves of cases of general paralysis of the insane. All the specimens were described, and the microscopic ones were illustrated by photo-micrographs.

Reviews and Notices of Books.

The Hygiene Diseases, and Mortality of Occupation. By J T ARLIDGE, M.D. London Percival and Co 1892.

THIS valuable work by Dr Arlidge is an expansion of his Milroy Lectures delivered in 1889 at the Royal College of Physicians. We owe the author an apology for having so long delayed any notice of this book, a delay which was caused by unforeseen circumstances and in no way attributable to any want of appreciation of its great value. Social questions rightly occupy a large amount of public attention at the present time, and in order that we may arrive at just conclusions concerning the many social problems with which legislators and public men are constantly confronted the first thing necessary is exact information. The excellent work of Mr Charles Booth on the 'Life and Labour of the People' has put us in possession of a large number of facts which are indispensable for those who wish to arrive at any just appreciation of the conditions of life which have to be encountered by different classes of the community and the work which is the subject of the present notice is in many ways complementary to that of Mr Booth and supplies statistical and scientific matter which serves to complete our view of many social problems. Dr Arlidge's work should be welcomed by legislators and philanthropists as well as by the members of the medical profession, whose duty it is to be specially acquainted with those causes which affect the health of the different sections of the industrial community. Dr Arlidge is no mere statistician, nor is he merely a compiler of facts collected by others. He has opinions of his own—opinions formed during a long and honourable professional career which has given him singular opportunities of becoming practically acquainted with the subjects of which he treats. The influence of machinery on the health of the people is thus alluded to on p 25—

The expansion of manufacture by the agency of machinery is the most remarkable feature of the present age and every year the simple handicrafts are reduced in number and profoundly modified in character. It leads to the extension of associated labour in factories and to an astonishing subdivision of work. One result of this latter circumstance is an increased monotony of occupations. In the boot and shoe trade, for instance, whilst the machines in use deliver the workman from the cramped and unhealthy position enforced upon his forefathers and from the chest pressure caused by the last they deprive him of whatever satisfaction might be felt in making and turning out entire a boot or shoe and cause him to expend his technical ability in dreary monotony on making only one portion or a stitching two parts together. In fact it may truly be said of machinery that it reduces those who use it to the position of a part of itself. The man is transformed in a greater or less degree, into an accessory machine, and even in this humble position his utility is perpetually encroached upon by the invention of new automatic movements. And, generally speaking it may be asserted of machinery that it calls for little or no brain exertion on the part of those connected with its operations, it arouses no interest and is wearisome by monotony. Machinery consequently has nothing in it to quicken or brighten the intelligence, though it may sharpen the sense of sight and stimulate muscular activity in some one limited direction."

There are some pertinent remarks on the fashion of the present day to seek 'genteel' employment in preference to handicrafts and to regard hard manual work as less noble than those feeble manual employments which necessitate the use of the pen although it must be admitted that the carpenter who really produces some household appliance or piece of furniture really makes more use of his intelligence than the man who sits all day upon a stool laboriously copying at so much a folio.

"The teaching of statistics," says Dr Arlidge, "is that trades requiring strong and those demanding moderate

LONDON SANITARY PROTECTION ASSOCIATION—Dr Bristowe presided on Monday last at the twelfth annual meeting of this Society when the report of the Council for the past year was read. A very favourable account was given of the work accomplished, 535 houses having been visited, of which 68 per cent. were adjudged to be in a more or less bad condition. Amongst the buildings inspected were sixteen hospitals, schools or other public institutions. In view of the probability of the Association sharing in the Berridge legacy it has been proposed to render the twelve years experience derived from the operations of the Society available by means of lectures, publications &c.

exertion are far and away more healthy than others demanding little or no bodily effort. And all this is in harmony with what physiology proves—that the exercise of organs, and especially of the muscular system, is a pre requisite to health and preservative of life."

As a necessary corollary to the above, Dr Arlidge gives it as his opinion that if there is to be any interference with the hours of labour it is not the more laborious and more healthful employments which should be first considered, but rather those industries which necessitate unwholesome work indoors, and which really deprive the artisan of what our author rightly styles the pre requisite of health.

The fourth chapter of this book is devoted to a classification of employments, non traders, traders, artisans &c., with their subdivisions, and the reader who wishes for information as to the diseases which are especially prevalent in any class of the community will here be provided with a storehouse of facts which have been collected with equal industry and judgment. Chapter five deals with the Pathology of Dust Inhalation, and the various employments which necessitate the inhalation of dust or noxious vapours are here passed in review. The amount of information contained in these last two sections of the work is very great indeed, and there is scarcely an industry, certainly no industry of any importance, of which the chief facts connected with its processes, and especially the injurious parts of such processes, are not given. These portions of the work do not lend themselves to quotation in a review, and it only remains for us to say that, having gone carefully through the book, we can confidently recommend it as a valuable work of reference to all who are interested in the welfare of the industrial classes.

Contributions to the Physiology and Pathology of the Mammalian Heart. Philosophical Transactions of the Royal Society. By Dr C S ROY and Dr J G ADAMI. 1892.

A PAPER occupying 100 pages of the current volume of the Philosophical Transactions by Drs Roy and Adami, entitled "Contributions to the Physiology and Pathology of the Mammalian Heart," gives a careful description of methods, instruments and results, the outcome of ten years' study, and will be welcomed by everyone interested in the mechanics of cardiac contraction. By means of the cardiometer—an instrument on the principle of the volume recorders or oncographs so successfully employed on the spleen and kidney—the authors took prolonged observations of the systolic discharge from the two ventricles and by means of an "automatic counter" they recorded the rate of total output. A third instrument—the myograph—served to record the changes of length of any desired portion of the ventricles, thus sampling the changes of their total circumference. These bare indications must suffice to indicate the means of approach devised by the authors, it is not possible to describe them intelligibly without figures. One of the most important results established is that normally the ventricles do not become completely empty at the end of systole, and we are told that with "increase of aortic pressure there is, other things being equal, an increase in the amount of residual blood." The actual quantity of this residual blood, under various circumstances, as compared with the quantity expelled, in systole—data which must have been frequently under observation—cannot, however, be found, nor are any of the cardiometric tracings supplied with a scale so as to enable us to form more than an approximate estimate of the volume-value of the lever excursions. Judging from the tracings, the systolic discharge (in small and medium sized dogs) appears to have been between 5 and 10 cc.—i.e., lower than the values observed by Stolnikow. A large number of the authors' experiments relate to vagus effects—e.g., they show that with slower beat there is increased volume ($\times 2$, $\times 3$ or more), yet a diminution of total output (30 to 35 per cent.) From other experiments (chiefly by the myo cardiographic method)

we learn that the auricle is under closer subjection to vagus control than is the ventricle by reflex, as well as by direct excitation of the nerve, whereas the auricles (p. 220) may be arrested for hours, the ventricles soon resume contractions with an independent rhythm—indeed, we are informed that the vagus neither weakens the ventricular contraction nor exerts upon it any antitonic effect (pp. 224, 227). Moreover, muscarin arrests the auricle, whilst the ventricle goes on independently. The augmentor effects occasionally to be observed by vagus excitation came under the authors' observation, but are not believed by them to be due "to the presence of augmentor fibres such as are contained in the vagus of the frog," and the supposition is made that they may act by producing dilation of the coronary arteries. They are met with only in ill conditioned animals. Evidence is also offered of the existence of cardiac fibres from the stellate ganglion, causing weakening of the auricular and ventricular contractions (p. 247). These may "possibly" be constrictors of the coronary arteries, and the authors themselves lay particular stress upon this word "possibly," having no evidence to offer in support of the supposition. Another section is devoted to the study of the augmentor nerves, and in conclusion the authors discuss the significance of the cardiac nerve mechanism from the teleological standpoint.

The Microscope its Construction and Management. By Dr HENRI VAN HEURCK, Professor of Botany at Antwerp. English Edition, re-edited and augmented from the Fourth French Edition. Translated by WYNN E. BAXTER, F.R.M.S. With Three Plates and upwards of 250 Illustrations. London: Crosby Lockwood and Son. 1893.

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exertion are far and away more healthy than others demanding little or no bodily effort. And all this is in harmony with what physiology proves—that the exercise of organs, and especially of the muscular system, is a pre requisite to health and preservative of life.”

As a necessary corollary to the above, Dr Arlidge gives it as his opinion that if there is to be any interference with the hours of labour it is not the more laborious and more healthful employments which should be first considered, but rather those industries which necessitate unwholesome work indoors, and which really deprive the artisan of what our author rightly styles the pre requisite of health.

The fourth chapter of this book is devoted to a classification of employments, non traders, traders, artisans &c., with their subdivisions, and the reader who wishes for information as to the diseases which are especially prevalent in any class of the community will here be provided with a storehouse of facts which have been collected with equal industry and judgment. Chapter five deals with the Pathology of Dust Inhalation, and the various employments which necessitate the inhalation of dust or noxious vapours are here passed in review. The amount of information contained in these last two sections of the work is very great indeed, and there is scarcely an industry, certainly no industry of any importance, of which the chief facts connected with its processes, and especially the injurious parts of such processes, are not given. These portions of the work do not lend themselves to quotation in a review, and it only remains for us to say that, having gone carefully through the book, we can confidently recommend it as a valuable work of reference to all who are interested in the welfare of the industrial classes.

Contributions to the Physiology and Pathology of the Mammalian Heart. Philosophical Transactions of the Royal Society. By Dr C S ROY and Dr J G ADAMI. 1892.

A PAPER occupying 100 pages of the current volume of the Philosophical Transactions by Drs Roy and Adami, entitled “Contributions to the Physiology and Pathology of the Mammalian Heart,” gives a careful description of methods, instruments and results, the outcome of ten years’ study, and will be welcomed by everyone interested in the mechanics of cardiac contraction. By means of the cardiometer—an instrument on the principle of the volume recorders or oncographs so successfully employed on the spleen and kidney—the authors took prolonged observations of the systolic discharge from the two ventricles and by means of an “automatic counter” they recorded the rate of total output. A third instrument—the myograph—served to record the changes of length of any desired portion of the ventricles, thus sampling the changes of their total circumference. These bare indications must suffice to indicate the means of approach devised by the authors, it is not possible to describe them intelligibly without figures. One of the most important results established is that normally the ventricles do not become completely empty at the end of systole, and we are told that with “increase of aortic pressure there is, other things being equal, an increase in the amount of residual blood.” The actual quantity of this residual blood, under various circumstances, as compared with the quantity expelled, in systole—data which must have been frequently under observation—cannot, however, be found, nor are any of the cardiometric tracings supplied with a scale so as to enable us to form more than an approximate estimate of the volume value of the lever excursions. Judging from the tracings, the systolic discharge (in small and medium sized dogs) appears to have been between 5 and 10 cc.—i.e., lower than the values observed by Stolnikow. A large number of the authors’ experiments relate to vagus effects—e.g., they show that with slower beat there is increased volume ($\times 2$, $\times 3$ or more), yet a diminution of total output (30 to 35 per cent.) From other experiments (chiefly by the myo cardiographic method)

we learn that the auricle is under closer subjection to vagus control than is the ventricle by reflex, as well as by direct excitation of the nerve, whereas the auricles (p 220) may be arrested for hours, the ventricles soon resume contractions with an independent rhythm—indeed, we are informed that the vagus neither weakens the ventricular contraction nor exerts upon it any antitonic effect (pp. 224, 227). Moreover, muscarin arrests the auricle, whilst the ventricle goes on independently. The augmentor effects occasionally to be observed by vagus excitation came under the authors’ observation, but are not believed by them to be due “to the presence of augmentor fibres such as are contained in the vagus of the frog,” and the supposition is made that they may act by producing dilation of the coronary arteries. They are met with only in ill conditioned animals. Evidence is also offered of the existence of cardiac fibres from the stellate ganglion, causing weakening of the auricular and ventricular contractions (p 247). These may “possibly” be constrictors of the coronary arteries, and the authors themselves lay particular stress upon this word “possibly,” having no evidence to offer in support of the supposition. Another section is devoted to the study of the augmentor nerves, and in conclusion the authors discuss the significance of the cardiac nerve mechanism from the teleological standpoint.

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THE LANCET.

LONDON SATURDAY, MARCH 11, 1893

THE friendly action which was instituted between the Royal College of Physicians of London and the General Medical Council to determine the legality of the claim of the former to the registration of its licence as a complete qualification in medicine, surgery and midwifery has at length been tried and has resulted in judgment being given in favour of the College. This is what we anticipated would be the issue. When writing after the first step in this contentious business had been taken we pointed out that the College had "since 1858 exercised its power of granting a complete qualification, and that that power was not removed by the Act of 1886" (THE LANCET, Dec 5th, 1891, p 1287). The legal proceedings, which culminated on Wednesday last in the judgment given by Lord Justice A. L. SMITH, arose out of the resolution passed by the Medical Council on Dec 27th, 1891, by a majority of 19 to 6. That resolution, moved by Sir W. TURNER and seconded by Sir JOHN SIMON, ran as follows—

"That as the claim made by the Royal College of Physicians of London that its single diploma of Licentiate or Member should admit to the Medical Register without any additional qualification would involve the admission by the Council that the College can itself confer a complete qualification in medicine, surgery and midwifery, and as this claim is based upon the interpretation of the Charter of the College along with the Medical Acts of 1858, 1860 and 1886 the Council leave it to the Royal College of Physicians to substantiate their claim in such a way as they may think fit and in the meantime instruct the Registrar not to register the qualifications of Licentiate or Member of the Royal College of Physicians of London as in themselves sufficient to admit to the Register."

The issue before the Court was, as Lord Justice SMITH said, a narrow one. It was whether at the time of the passing of the Medical Act (1886) the College of Physicians was a corporation legally qualified to grant diplomas in respect of medicine and surgery. This he held to have been clearly established. To determine this the judgment went back to the original Charter of Incorporation granted to the College by HENRY VIII, and he especially directed attention to the Act of 1540 which in its second section expressly includes within the definition of "physic" the "knowledge of surgery as a special member and part of the same." At the same time it is true that, as Sir HORACE DAVEY said, the Charters granted to the Society of Barber Surgeons, with which eventually the present Royal College of Surgeons was incorporated, did imply a distinction between the practice of surgery and that of physick. It is clear, however, that the College of Physicians possessed the right to give qualifications in surgery as well as in medicine, although it was not until 1862 that it imposed an effective examination in the former subject.

The College of Physicians has always maintained that in consenting to conjoin with the College of Surgeons for the purpose of granting efficient diplomas it had reserved its primary and peculiar privilege of granting diplomas which by themselves should entitle the holder to registration under

the Act of 1886. It was this claim that the General Medical Council disputed, and it may be recalled that on the occasion of Sir W. TURNER's motion, which has been the cause of this litigation, some members of the Council did not hesitate to impugn the sufficiency of the examinations conducted under the authority of the College. The attacks upon the College examinations were based on a confusion between the two very distinct classes of test applied to the Licentiates and the Members of the College respectively, for the latter is admittedly confined to the subject of medicine, and had it not been for the erroneous registration of a Member by virtue of this single diploma alone all the subsequent dispute might have been saved. The General Medical Council have not only failed to prove their point, they have elicited a judgment which, so far as the strict legal interpretation of the powers and privileges of the College goes, may be construed to award the College even more than it asked for, for it may be observed that the learned judge in his remarks made no distinction between the Licentiates and Fellows. He held that the term "physic" comprised that of surgery, and the logical inference is that instead of limiting the admission to the Register to those who have been actually examined in medicine, surgery and midwifery the General Medical Council might be compelled to admit Members and Fellows who possibly may not hold any diploma in surgery at all. We do not suppose that the College would ever press its rights in that direction. It is enough for it to have obtained confirmation by a court of law of its contention that the diploma granted for its licence is a qualification in medicine, surgery and midwifery, and the College may be trusted to maintain the standard of the examinations for that licence at as high a level as those for the Conjoint Board. We have not much sympathy with the General Medical Council, whose action implied that the College of Physicians, by retaining its ancient privilege, was unworthily endeavouring to open a back door to the Register, and we also think that if the facts had been impartially and fairly reviewed on the original occasion the majority of the members of the Council would never have taken a step which has led to this legal rebuff. On the other hand, the Licentiates of the College will be relieved to find that they have as much right to registration as any other holders of diplomas in the subjects of medicine, surgery and midwifery. The terms of conjunction with the College of Surgeons are such as to reduce in the future the possible number of holders of the licence alone into a very small proportion indeed, but it must be consoling to the College of Physicians to feel that, come what may, it can grant registrable diplomas without appealing to the General Medical Council for assistance in the choice of examiners.

APART from the interest of the recent speech of Lord SALISBURY at Oxford as a local question or its bearing on academic duties, it has a high interest to members of the medical profession. It is, indeed, a fact for medical men to note that the present and the late Premiers of England—her two foremost and most conspicuous statesmen in the last decade of the nineteenth century—have each taken occasion to speak in terms of high eulogy of the great profession of medicine and of its prospects. Some superficial observers talk as if medicine will be superseded as civilisation

advances That is not the opinion of either Mr GLADSTONE or Lord SALISBURY Mr GLADSTONE, observing, we fear, the increase in the remuneration of medical labour, told us last week that certainly no fees were more nobly earned than those of medical men. Two years ago, in his capacity as Senator Governor of Guy's Hospital and when opening there a new medical college, he told us that ever since the time of MEAD and FREIND the profession had been steadily rising into a position of influence and power and general recognition, and that in his opinion it would continue to rise with the growth of civilisation which involved wants and infirmities which are the opportunity of medical men. Civilised man is more sensitive to pain than his savage brother, and we fear we must admit that the growth of civilisation neither abates his sensitiveness nor increases his tolerance of suffering. Worrr is very much a product of civilisation—one of those refined and indefinable influences scarcely felt by savage races, tending to undermine health and predispose to disease. The factor of worrr in the production of disease is very marked, and if medicine has not yet discovered a specific it is constantly in demand for means for the reduction of the effects of this morbid influence, and it may be assumed without undue boasting that the wise physician ministers to the sufferers from worrr as powerfully as any other philosopher or friend. How much more brilliant is the service of medicine in the mitigation or removal of actual pain, even when amounting to agony by the discovery and application of substances which control it and often the conditions and the causes of it. The eulogy on medicine as a science delivered by Lord SALISBURY at Oxford in his capacity of Chancellor of that ancient University is, indeed, one of the most significant and complimentary deliverances on the subject which history has to record. To be candid, it is one which could not have been pronounced with perfect accuracy until a period not far removed from the present. No doubt the true exponents of medicine have for a long time been on the track of truths of the highest moment to the human race, but it is chiefly within the last thirty years that a great advance has been made in the methods of medical investigation, the faithful pursuit of which promises the highest results for the welfare of nations and of individual men. Lord SALISBURY deserves credit for his courage in rising at Oxford, of all places in the world, the ground of the claim of an infirmity from one of mere charity—though that is high ground indeed—to that of his power to minister to the cultivation of one of the greatest of the sciences—the science of medicine. There have long been at Oxford men like Sir HENRY ACLAND and Dr BUCHAN SANDERSON who perceived the true greatness of medicine and wherein it consisted, but it is useless to deny that they have been 'sore let and hindered' in trying to give it academic encouragement and position. The problems of life, as viewed by the physiologist and the physician—a view that is now being increasingly forced on all thoughtful men—have not been the problems that have hitherto commended themselves to the study of the men who have guided Oxford. Now that the two most powerful of her sons have so emphatically declared the importance of medicine not only as a profession but as a science (in Lord SALISBURY'S studied words 'the most sober, the most absolute, the most positive of all sciences') we may confidently hope to see

Oxford begin seriously to make amends for her neglect of this science in the past. For the understanding of man in all his relations and interests this science is indispensable. Truly, as Lord SALISBURY says it is occupied largely just now in the attempt to investigate the "infinitely little", but there is high authority for saying that the "small things" of the world have been made to confound the things which are mighty and more than once the heart and history of England have been mightily affected by the action of these said 'small things' on her people and her potentates. The methods of medicine are now of the severest scientific kind, and would have been so long since and much sooner if such bodies as the University of Oxford had done their duty by science. She can make amends now just as her sister University of Cambridge has done. We admit that it was easier for Cambridge to graft on her mathematical school a great medical school as she has done but still as Lord SALISBURY says Oxford has abundant means of teaching the group of sciences which are the equipment of the physician if she will but give her mind to the claims of science. If Oxford does not make amends she will be the loser. Unless both Mr GLADSTONE and Lord SALISBURY are wrong in their estimate, medicine is building on sure foundations a high and a lasting place in the estimation of mankind, and, unless her devotees stray into other paths than those in which they are at present reaping such precious fruits, their claim to a higher recognition than any at present accorded to them both by the State and by the educational bodies of the country will become irresistible.

We will, in conclusion, notice only one fact of interest in connexion with these remarkable pronouncements of the Premier and the ex-Premier. Both of them have been made, not when the speakers were in power, but when they were in opposition. We do not mean by this to imply that we have any doubt as to the sincerity of the speakers in expressing such opinions. It is the advantage of the relegation of such minds to the comparative leisure of opposition that they have time to consider other branches of knowledge than those immediately concerned in legislation and administration. Is it, however, too much to expect that when in power they will use their influence to secure for medical men that place and that recognition in the State which is surely the due of those who represent 'the most sober the most absolute and the most positive of all sciences' which is also in its office 'only another name for a work of mercy more closely linked than any other with the relief of human suffering and the remedy of human calamity in its worst and most overwhelming forms'?

SCOTLAND is fortunate in having at the fountain head of its active asylum life and work a man so able as Dr CLOUSTON and the *Scotsman* of the 23rd ult. in referring to his last annual report as Physician Superintendent of the Edinburgh Royal Asylum for the Insane, is fully warranted in speaking of him as 'one who besides possessing the knowledge and authority of a specialist in mental diseases has a wide practical acquaintance with, and a deep philosophical interest in the great social questions of the day. Without being afflicted with the clerical scruples Dr CLOUSTON is never unwilling to express

his views upon paper, he is not a faddist and his writings are always readable and interesting and full of common sense—characteristics which give his annual report a value that seldom attaches to the almost always dull sentences of the average Blue book. Dealing with the ever recurring question of the increase of insanity, Dr CLOUSTON tells us that in Scotland generally there is now one rate paid insane person to every 392 of the population, while ten years ago the proportion was one to 435, showing an increase of insane to sane of 11 per cent. In England the rate paid insane is found to be one to every 335 of the population now as against one to every 347 ten years ago. Scotland therefore has the advantage of England in total numbers, but the proportion of increase in the insane in England has only been 3.3 per cent. in the ten years against Scotland's 11 per cent. Some explanation of this is sought in the fact that a Lunacy Act has been longer in operation in England than in Scotland by a period of twelve years, thereby facilitating the official recognition of the insane, but we cannot help thinking that this explanation ought before this to have arrived practically at vanishing point, seeing that the English Lunacy Act has been in existence for half a century. Other causes of the difference must be sought for, and they will no doubt be found in groups of circumstances and social conditions which are found to vary in their outward expression amongst the populations of the two countries, where we have, besides legislation and classification, methods of distribution as to the insane established on lines that are by no means parallel.

That this contention has some weight is evidenced by statements made by Dr CLOUSTON himself. For instance, with regard to Ireland, where the Lunacy Act has been in operation longer than in Scotland, he points out that there is now the very large proportion of one lunatic to every 280 of the population, while ten years ago that country had only one to every 371, showing an increase now of 32.5 per cent. Again, in this relation, he refers to an individual Scottish county, Argyle, where there was one insane person to every 200 of the population, but the increase of that proportion in the last ten years has only been half of what it had been in Ireland. Dr CLOUSTON thinks that the natural explanation in both cases is a "diminishing population through the emigration of many of the most energetic and healthy, the poor and the old and the lazy, the insane and those lacking in intellectual and physical energy, being left." No one will be disposed to question this broad statement, which exemplifies one of the conditions in active operation as a means of disturbance in the balance of the proportion of the insane to the sane in one country as compared with another. Leaving the pauper lunatic, Dr CLOUSTON becomes critical on the subject of the non-pauper insane. He points out that in Scotland the number of the self-supporting insane now stands in almost the same ratio to the population that it did in 1876, and this in spite of an enormous increase which Dr CLOUSTON says has taken place in the proportion of well-off people in the country. "If," he says, "insanity should its increase be confined to those who got treated at a public expense?" a pertinent question, if it is so confined.

On this subject we should have been glad if Dr CLOUSTON had given us some supporting gleams of comfort from a comparison with statistics in England. In its greater comparative homogeneity of race, and presumably of hereditary mental constitution, Scotland affords, as compared with England, a sufficiently circumscribed sphere for the study of national characteristics, whether normal, abnormal, or diseased, and it is most interesting to find Dr CLOUSTON raising valid and strong questions of the sort, even although only in the limited compass of an annual report. The *Scotsman*, in its leading article, says on this subject: "It has been contended, and there is a good deal of evidence as well as probability to support the contention, that this spread of mental infirmity is part of the penalty which the human organism and intellect have to pay to modern civilisation—that the brain is harder worked and suffers more frequent breakdown, that the pace is telling on the race. The gains may be worth this and other items of cost, but humanity would certainly be put somewhat out of concert with progress on present lines if it could be shown that the higher the plane of civilisation the greater the proneness to madness." Are Dr CLOUSTON's figures and statement of opinion on this subject accurate and incontrovertible as regards Scotland? And if as regards Scotland, are we to interpret them as being applicable to England and other countries? We hesitate to accept the minor proposition without more complete demonstration. As we have pointed out above, Dr CLOUSTON shows that, through emigration of the most energetic and healthy, those lacking in intellectual and physical energy are left. The traditional allusion to Scotsmen leaving home in search of the fleshpots of the South has in this relation a significance and a force not usually claimed for it, and that it applies not merely to individuals of the labouring and less intellectual class is evidenced by the eminent success of Scotland's sons in all parts of that empire upon which the "sun never sets." We merely suggest this general point as a factor for consideration in an important question of this kind. And, again, even if the most highly civilised individual himself has been blessed with stability enough to avoid relegation to the ranks of the insane, may he not be responsible for the initiation, or at all events for the transmission to his offspring, of a possible heritage of nervous instability or proneness to insanity which renders them less able to earn their livelihood and to resist becoming rate paid inmates of asylums? Our readers will do well to obtain this report on the Edinburgh Asylum for 1892 and study it for themselves.

So far as may be gathered from the columns of the local press the authorities of Leicester have been acting very much at cross purposes since small pox arose in their town, much to the surprise of certain of its councillors, who have for years past not only been vaunting the superiority of Leicester and its "method" of dealing with that disease, but have also been sedulously decrying the efficacy of vaccination. The *Leicester Daily Post* of March 1st gives a strange insight into the doings of this much perplexed and much divided municipality, which has not the courage of its opinions, but is content to waste time and money over an "inquiry" into the causes of the outbreak, whilst refusing grants to improve the accommodation.

tion so sadly needed for the isolation of infected families. We cannot think that the proceedings of the Town Council during the past few months will be regarded with satisfaction when its history comes to be written. It seems to be occupied largely in checking the endeavours of the sanitary committee to cope with the disease out of consideration for the ratepayer, whilst it has sanctioned a wilful expenditure on an inquiry which can lead to no good end. To review the whole of its proceedings during this period would entail more space than they merit, but they may be summed up in a word as a policy of drifting, which began last autumn when the proposal to erect a new fever hospital, although it had been adopted and the plans had been approved, was abandoned. Then small pox broke out, and the effete buildings, which had been put up twenty years ago and which were at the time largely occupied by scarlet fever cases, had to be utilised for the reception of small pox cases. Of course, some of the unfortunate children in the fever wards contracted small pox, it is only surprising that more of them did not take the disease than were attacked, so close is the proximity of the fever wards to the small-pox wards. Still, there was a sublime confidence that Leicester was not likely to suffer from an epidemic of small pox, the "Leicester system" being all sufficient, and it would almost seem as if the inquiry which the sanitary committee have instituted were the result of chagrin at the failure of the "system" to keep out the disease, for in spite of confident predictions to the contrary, Leicester has not been free from small pox since September last. As to the steps taken by the sanitary committee and the Town Council, we cannot do better than quote from the leading article in the above named journal which commented on the proceedings of the meeting of the Council held on Feb 23th—

"Our guardians of the public health formally recommended that the Council should accept a tender of £1762 for the erection of a building adjoining the fever hospital, as previously authorised by the Council. Not only, however, was this proposal negatived, but it was superseded by a resolution that the Council should apply to the Local Government Board for power to borrow £2500 to carry out some similar scheme or other which was not specifically identified. Of course, the open secret of this latest change of front—this new reverse for the unfortunate and bewildered sanitary committee—is only too plain. It is to be found in the impending Budget with its huge addition to the rates and the irresistible fear that the imposition of another penny in the pound would provoke an absolute revolt on the part of the already alarmed and indignant ratepayers."

The article goes on to admit the "utter inadequacy of the present hospital alike in accommodation and internal arrangements" and the need for another building for the purposes of isolation and quarantine, but, as if to show how hopelessly at variance with one another the very members of the committee are who are entrusted with the system associated with Leicester we find the following frank admissions in a later paragraph—

The striking feature of the debate was its testimony to the necessity of reconsidering at least one part of the municipal plan of campaign against small pox. We allude to the "ro ten and expensive system"—to quote the scathing indictment of the vice chairman—by which large numbers are housed at the hospital, fed like fighting cocks on beef and beer, and yet not sufficiently isolated to be as thoroughly quarantined as they might and otherwise would be at home. Certainly if this specific feature of the Leicester experiment

has proved a comparative failure—and it is frankly admitted—its supersession by the economical and more efficient home system can hardly be too rapid and complete."

And these are the words of a writer who cannot, we imagine, be actuated by any desire to humiliate Leicester or to depreciate its capability for dealing with infectious diseases. In one passage there are pleas for extended provision for "quarantine" and in another a desire to abandon the "system" altogether. The fact seems to be that this visitation of small pox, which found Leicester lulled into a false security, has revealed a lamentable state of indecision and unpreparedness amongst those responsible for the health of the borough. The outbreak is not yet over, it may at any time attain dimensions which will necessitate very vigorous action, but no impartial onlooker can come to any other conclusion than that Leicester has forfeited its claim to be considered as a municipality which is possessed of ordinary foresight in dealing with zymotic disease. However, as if in vindication of its apathy in one direction, we read in the *Leicester Daily Post* of Feb 28th that on Feb 27th a man was prosecuted for failing to notify a case of small pox in one of his children, who appears to have been attacked subsequently to the cessation of the surveillance to which his household had been subjected on the illness of another child. The case was held to be proved and a fine was inflicted, the penalty being mitigated in consideration of the fact that two or three more of his children have been attacked with the disease, of whom one has since died. The defence was a plea of ignorance of the nature of the illness—a perfectly reasonable ground, but under the special circumstances of the case this plea could hardly be sustained. No medical man was called in to this case, and the parents may have hoped against, or have shut their eyes to the possibility of its being small pox. The previous case had been treated at the hospital and they must now bitterly regret that they did not take steps to prevent the infection of their remaining children by notifying the medical officer of this case or, at any rate, of consulting him as to its nature. It is, however, not unlikely that they, as so many of this class do, did not believe in the contagiousness of small pox, which has had for them such disastrous results. We should be sorry to think that they had ever been encouraged in that opinion, although there is no accounting for the vagaries of some would-be instructors of the people on these subjects.

Annotations.

"No quid nimis."

ALABASTER AND OTHERS v THE MEDICAL BATTERY COMPANY

THIS case, which was tried on Tuesday and Wednesday last in the Queen's Bench Division before the Lord Chief Justice and a special jury formed a fitting sequel to the case of Tibbits v Alabaster and Others which was reported in THE LANCET of Feb 25th. It will be within the recollection of our readers that the former action was brought by Dr Tibbits, who had been severely criticised in an article in the *Electrician* for the part which he had taken in support of the trade in "electrostatic belts." Dr Tibbits, however, failed signally to make out his complaint, and although he had been subjected to a very severe attack the

jury awarded their verdict to the defendants. The Medical Battery Company seems, however, to have thought that it would be a good thing to retaliate upon its critics by attacking the circulation of their paper, and accordingly caused a circular letter to be addressed to the news-vendors of London denouncing the criticisms in the *Electrical Review* as "malicious libels," and warning the tradesmen that they would be held personally responsible if they continued to circulate defamatory statements concerning the Medical Battery Company. The strategy of this measure was exceedingly well conceived, and for a time very serious inconvenience, and even injury, was inflicted upon the proprietors of the newspaper. Their customers, being very naturally indisposed to interfere in the discussion, demanded an indemnity and refused otherwise to circulate the paper. The indemnity, therefore, had to be given and a responsibility assumed which might well have deterred less resolute journalists from maintaining so arduous a struggle. The proprietors of the *Electrical Review*, however, did not tamely submit to this inconvenience. On the contrary, they brought an action for the libel contained in the circular, and claimed damages in respect of the injury done to their trade. They have succeeded in the most ample measure, and it is matter of satisfaction, not to them selves alone, that their verdict of £1000 will probably make the directors of the Medical Battery Company and other persons like minded hesitate before renewing the attempt to stifle criticism in this way. The damages are significantly heavy, but, having regard to the conduct of the defendants both before and at the trial, we are bound to say that they do not appear to us to be excessive. They signify of course, that the jury felt that the case was one for exemplary treatment. The defendants had been denounced as persons who traded upon the weakness and credulity of sick and suffering people, and who sold worthless trash under the name of curative appliances. When evidence in justification of these most serious charges was tendered they endeavoured to shut it out upon a technical objection, and when their objection was overruled they did shut it out by admitting the libellous character of the circular and going to the jury on the question of damages alone. That the jury should have thought that such chicanery deserved to be visited with heavy damages does not surprise us, and although we think that there is, perhaps, at the present time some disposition on the part of juries to exaggerate the offence of libel and to award, when it is proved, disproportionate damages, we consider that there never was a case in which severity was more merited by the circumstances of the offence or better calculated to prevent its repetition than the present, an account of which will be found in another column.

YEW POISONING

To determine the causes of the capricious occurrence of yew poisoning in cattle Mr Stuart Wortley undertook some experiments and published his results in *The Times* in the course of last summer. His letter was followed by a conflict of evidence from various quarters, the general bearing however, showing a widespread belief amongst agriculturists in the frequent toxic influence of the yew. Little good could be expected to result from the discussion of such a question in a daily paper, hence it is satisfactory to find that the matter has been revived in a quarter which is more likely to yield material based upon accurate observation and research. The journal of the Royal Agricultural Society contains papers by four writers, each of whom discuss the subject from a different point of view. Mr E P purpose gives from his own experience a list of the most its primary instances of deaths of animals after eating the yew trees. His examples include the Irish yew, by themselves. Court yew (*taxus fastigiata*), and the English

yew (*taxus baccata*), and they show also that the nature of the soil upon which the plant grows appears to have no influence in promoting toxic effects. Mr Charles Whitehead, after noting the small amount of definite information in English works, gives a summary of a recent French publication by M C Cornevin, professor at the National Veterinary School. This writer is of opinion that yew does not act as an irritant, but as an anæsthetic and narcotic at first and later on by stopping the action of the heart and by affecting the respiratory system. Judging by analogy, he thinks it acts upon the nerve centres. In view of the rapidity of action, M Cornevin makes the very ingenious suggestion that there may be a chemical combination within the animal organism analogous, perhaps, to that which produces prussic acid in certain species of *amygdalus*. The third paper is from Mr William Carruthers, F.R.S. he gives a reference to a description of toxic symptoms in man, he states, as a matter of common knowledge, that children eat the fleshy part of the fruit with impunity, but that when the thin crust surrounding the seed is broken, and the seed itself crushed and swallowed, fatal results have ensued. On the other hand, he doubts whether there is any foundation in fact for the asserted differences in toxic qualities in the stem or foliage of the two sexes of the yew. In the fourth paper, by Mr J M H Munro, chemical questions are mainly dealt with. The methods of separating the specific alkaloid *taxine* are given in detail and it is suggested that chemical changes in it may have been produced in the processes of extraction employed by Amato and Caparelli. While admitting that *taxine* is probably the poison of the yew, it is considered doubtful whether it has ever been obtained in a pure state, and also probable that other alkaloids are present. In Mr Munro's experiments he obtained a greater quantity of crude alkaloid from the male leaves than from the female, but he does not regard this result as conclusive and he suspects that the successive stages of purification cause an actual alteration in composition. The whole question, therefore, of the precise conditions under which yew is poisonous to horses, cattle, sheep and "game" still remains unsolved, though its importance merits, and will doubtless receive, the closest investigation.

THE ASSOCIATION OF FELLOWS OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND

A MEETING of the Committee of the Association of Fellows of the Royal College of Surgeons of England was held on March 8th. Mr George Pollock, the President of the Association, occupied the chair, and there was a large attendance of members of the Committee. The minutes of the last meeting were read and confirmed. The hon secretary read several letters of regret from members of the Committee who were prevented from attending. He also reported that the correspondence between the Committee and the President of the College had been printed and sent to every Fellow of the College whose address was known, as well as to the medical journals, in accordance with the instructions given to him at the last meeting of the Committee. It was for the Committee to decide whether any further step should be taken in the matter. A discussion ensued, and the general feeling was that, as the Association had been sufficiently vindicated, it was undesirable to take any further action. The next subject of discussion was the vacancies on the Council of the College which will be created in July next by the retirement in rotation of three members of that body in accordance with the charters. It was reported that the retiring members would be Sir Wm Savory, Bart, Mr C N Macnamara and Mr Oliver Pemberton. The hon secretary was instructed to write to the two latter gentlemen, who had been connected with the Association for some years, and at a previous election had received

the support of the Association, for the purpose of ascertaining whether they intended or not to offer themselves for re-election, as the nature of their replies would largely determine the action of the Committee in regard to the nominations and support of candidates at the election next July

THE LANDSLIP AT SANDGATE

IN the calamitous landslip at Sandgate, due, it has been alleged, to the subsidence of the sandy hills on which the town is built on their being left dry by the return of the sub-oil at ebb tide, and accelerated, no doubt, by the exceedingly rainy weather which was prevalent during almost the whole of the month of February, the seaside convalescent home known as the "Beach Rocks" has fortunately escaped damage and is being requisitioned by the Admiralty and many others as a resort for those who have been rendered destitute and homeless by the aforesaid catastrophe. We are informed that on Sunday night much alarm existed amongst the inmates, but this was allayed by the combined efforts of the nursing staff and of the secretary, Mr John James Jones, who during the whole of the night was present in the home to render any assistance that might have been found to be necessary

THE LANCET INVESTIGATIONS ON CHOLERA IN FRANCE

Le Petit Marseillais of March 4th contains an interesting account from the pen of M. Gaspard Galy of an interview which he has had with our special correspondent, who is at present investigating the conditions and circumstances to which the recent outbreak of cholera in Marseilles may be attributed and the results which have arisen in consequence. In the course of the article the former observations and researches which have been from time to time published in the columns of *THE LANCET* and which our correspondent has, after much labour, been able to supply to our readers, are set forth with considerable detail. The writer says "La grande publication anglaise *THE LANCET* qui fait son objet spécial des questions de médecine, de chirurgie et d'hygiène vient d'envoyer son rédacteur spécial à Marseille, où il vient procéder sur place à une enquête sur les causes et les effets des dernières épidémies. He goes on to say that he has followed with much interest the plans and drawings which our correspondent had laid before him and which rendered it easy for him to understand the sanitary history of the town. He further states that our special correspondent had cited examples of the absolutely ridiculous means adopted in certain localities for combating the disease.

— AND COCOA

Imperance is a gain to national opinion in noticing such an advance achieved recently by Dr W Wood of the Worcestershire Health Society. The 'Tea and Cocoa.' As might have been expected of these beverages received the same consideration. Its varieties, its different chemical properties, its modes of preparation and erroneous were discussed at some length and with the happy result that it may still be regarded as a wholesome stimulant and restorative of the nervous system which if properly made and used in moderation, is guiltless of after ill effects. A comparison between the different known methods of preparing tea is of some general interest, the Japanese plan—which allows infusion for about a minute and a half, and which does not require boiling water, cream, or sugar—having evidently an attraction for the lecturer. For general use, however he recommends the ordinary British custom, the infusion being drunk whilst recent and

not strong. In this country we stand in equal, if not greater need of teaching in regard to the qualities and preparation of coffee and cocoa. The former of these wholesome luxuries was treated of in considerable detail. We should have welcomed a somewhat fuller exposition of the properties and uses of the latter. A recommendation of cocoa in the nourishment of infants is, however, noteworthy and should prove of some practical service. The question of cost was not forgotten. The estimate for a cup of good tea (3d) and of good coffee (4d) is instructive when the prices charged in many restaurants for infinitely poorer stuff are held in mind.

MEANS OF ISOLATION AT WEST HAM

WEST HAM is in considerable difficulties as to hospital accommodation for infectious diseases. The question of small pox has again and again been the cause of postponing the provision of a hospital and it still stops the way to some extent. There is a building that might be used were it not that if small pox were received into it a Poor law institution would suffer. Dr Barry, representing the Local Government Board, has conferred with the sanitary authorities within the West Ham Union and at a preliminary interview he advised the formation of a joint hospital board and the provision of separate hospitals—one for small pox and another for the other infectious diseases.

DEATH UNDER CHLOROFORM

A DEATH under chloroform took place at Hanley on Feb 21st. The patient was a well built and robust young man of thirty four, a mould maker, who had contraction of the palmar tendons of the right hand caused by an injury he had received some years ago. It was with the view of setting free those tendons that Mr W D Spanton had undertaken to operate. Chloroform was administered by Mr Aiken, the patient having been previously put to bed in his own house. The patient took the anæsthetic well. There was a good deal of shouting during the stage of excitement, which passed off as usual with a brief general spasm of the muscular system, and then the man's respiration became regular and he was pretty well under the influence of the anæsthetic. It was shortly after this, about ten minutes after the commencement of the administration of chloroform, that the pulse suddenly ceased, the respiration stopping immediately afterwards. The tongue was pulled out and artificial respiration performed, and a nitrite of amyl capsule was held under the nostril, but although artificial respiration was kept up for some time there was not the slightest sign of returning consciousness. The chloroform was administered on a fold of lint, held a little distance over the mouth, the operation had not been commenced. A post-mortem examination of the body was made by Dr Charlesworth and Mr Adler. The lungs were congested and the right side of the heart was full of dark liquid blood. The walls of the heart were flaccid and somewhat thin. The man had always enjoyed good health.

THE "ESPOSIZIONE OF THE INTERNATIONAL MEDICAL CONGRESS

AN Italian correspondent under date Rome, March 5th, writes. Among the many features in which the organising committee are working to make the coming Congress a distinct advance on its predecessors is that of a medical exhibition which shall place on view, conveniently arranged and effectively catalogued every article, object, appliance or appurtenance of the healing art in its widest acceptance. A special 'Comitato Esposizionario' has just been appointed *ad hoc* including such representative names as that of the Commendatore Professor Pagliani Director of Public Health, Signor Bentivegna, the distinguished engineer, Signor Marzan, a public auditor of approved

ability, and others not less fit for the work of organisation. Professor Pagliani is its president, and under his energetic auspices circulars inviting the contribution of specimens of every kind of medical *materiel* are now ready for transmission to pharmacutists, surgical instrument makers, food manufacturers, wine growers, mineral water agents—to all, in short, who cater for the professional requirements of the practitioner. Many of these specimen contributions, indeed, are on their way to the 'Esposizione,' their contributors being, not unnaturally, interested in securing an advantageous *locale* for their contributions. The alimentary and wine departments will, I have good reason to know, be richly represented not only by Italian purveyors and by British houses established in Italy, but by those of other nationalities—Swiss, Austrian and German in particular. For all contributors from abroad the Commendatore Pagliani is exerting his great influence—parliamentary, social and professional—to secure facilities for the convenient consignment of their wares *en route* to the Exposition by reducing railway charges and minimising Custom House formalities to the vanishing point. That the 'Esposizione' shall be 'la nota saliente' (the outstanding feature) of the Eleventh International Congress of Medicine and Surgery is the avowed object of the Commendatore Pagliani and his coadjutors on the committee, and certainly they are sparing no effort to be as good as their word."

EMPLOYMENT FOR THE BLIND

WE may safely say that, with the exception of those mentally afflicted, no class of the population have suffered so much from the want of employment entailed by their condition as the blind. They have not, indeed, been left altogether without means of livelihood, and some few, favoured by social position and means, have attained to the discharge of great and useful functions. As a rule, however, the blind man's calling has consisted merely in the practice of some simple handicraft requiring for its exercise only the most moderate amount of intelligence. Of late years a change has begun to come about. Much has been done by means of specially directed education to increase the intellectual and practical energy of this once neglected class and thus to justify their occupation in work of a more complicated and responsible character. There exists in consequence a need of such employment, so modified and adjusted that the sense of sight shall not be indispensable to its exercise, and indications are not wanting to show that the demand may be satisfied. As an illustration we may mention the recent introduction by Mr F W Smith of Brighton of a typewriter intended for the use of blind persons which prints embossed characters and is adapted to any type. This invention, we repeat, is noteworthy, not only for its own sake, but as indicating the growth of a purpose which promises to bring more and more within reach of the hitherto incapable blind a considerable part at least of the privilege of work enjoyed by their seeing neighbours. We might suggest the telephone and even the telegraph systems as other possible outlets for their energies.

ANNUAL DINNER OF THE ROYAL MEDICAL SOCIETY OF EDINBURGH

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demands sleep she also demands exercise. The demand may be refused or ignored, but retribution is sure to follow. According to the Rev J E C Weldon's experience, payment with heavy interest is claimed about the age of fifty. "The man who has taken no exercise breaks down. A breakdown is not a break up, he resumes work after a time, but he is never again the same man." There are so many forms of exercise nowadays that it is comparatively easy for a teacher to guard against the evils of too sedentary a life. The remarks on the proper use of holidays, on rest and change, on the cultivation of a variety of interests, on the avoidance of a narrowness of mind, on the advantages of large and lavish reading and on novel reading as a means of taking people out of themselves, which is often, perhaps, the best holiday they can have, if not altogether new, have, in our opinion, the merit of being altogether true. The peril of reading no novels is alleged to be much more serious than that of reading too many. On these and several other subjects we consider that much wholesome and wise counsel is given which is likely to prove helpful to those concerned, and to those who reject or disregard it we can only say that we are sorry for them, and still more sorry for their pupils.

AN INCENTIVE (I) TO LIFE-SAVING

AT an inquest held by the Southwark coroner, at Guy's Hospital on the 7th inst. a witness who recovered the body of a young woman, in whose case animation was subsequently restored for a few hours, asked the coroner whether he would be allowed the fee for recovery of a body. The coroner informed the applicant that the fee was only paid to a person recovering a dead body in a navigable river. The deceased was alive when taken out of the water and the witness was therefore not entitled to remuneration. The applicant said that he had spoiled a suit of clothes in endeavouring to save the young woman. Had he been a few minutes later in reaching the deceased, life would have been extinct and he would have been entitled to the fee. Comment on the above mentioned monstrous state of affairs might be summarised in Dominic Sampson's exclamation, "Prodigious!" We feel constrained, however, to add that "something is rotten in the state of" England's laws which permits such a glaring anomaly to be perpetuated at the close of the nineteenth century.

CRIME, SENTENCE AND SUSPENSE

THERE is no stronger proof of the essential and inseparable connexion which exists between the medical profession and all that concerns the moral and physical health of man kind than the frequency with which the opinion of its members is sought in relation to the origin, processes, detection, punishment and prevention of crime. We need hardly point to the familiar question of sanity by way of illustration. All our modern prison usages, our means of punishment, our methods of reform, likewise imply and indicate the same vital connexion, and thus exemplify so many remedial agencies intended not so much to dispose of a dead monster of convicted guilt as to reach and combat its still living forms. Nor is this beneficent influence traceable only through its physical manifestations. It operates also at all stages of the criminal descent by mental and moral processes, and even in the presence of death combines its friendly offices with those of the more strictly spiritual adviser. This last phase of its usefulness has recently been discussed in some detail by a correspondent, who draws our attention more especially to one particular point in the history of retribution. He objects, and with reason, to the frequently long duration of suspense in which many a prisoner who is aware that efforts are being made to obtain a mitigation of the death penalty

is allowed to remain until almost the hour appointed for his execution. He would have the public, the medical profession, and especially those in authority, realise what is implied in an interval of two or three weeks thus passed in mingled hope and fear, its numbing influence on any movement towards confession or on any process of self preparation for the final change, which excludes all earthly interests. How much more merciful it would be, he says, if the final Yea or Nay of Her Majesty's representative were communicated to the doomed offender at an early date after his conviction by the jury. No words of ours are needful to commend the justice of these observations. We trust that they will not be overlooked by those with whom rests the power to give them practical effect. We may here, however, be allowed to question whether petitions for the mitigation of sentences do not sometimes themselves constitute an avoidable difficulty in arriving at that early decision which in this matter is so desirable. Most people can recall the memory of cases in which the petitions prepared were clearly certain of rejection, and the fate of such may serve as a needed check upon the impulses of a false public sentiment.

THE DESTRUCTION OF CARBAMIC ACID BY THE LIVER

IN the last part of the *Archives des Sciences Biologiques* Drs Hahn, Massen, Nencki and Pawlow give an account of an interesting investigation following up previous researches by Dr Eck in 1877 and Dr Stolnikow in 1882 on the effects produced on the animal economy by diverting the portal blood into the vena cava so that it should not supply the liver. Sixty animals were operated upon, all being narcotised. Of these, forty succumbed to accidental causes. Those that survived underwent a complete change of character, from being quiet and docile they became troublesome and obstinate, and in some cases violent and dangerous. They also suffered from repeated clonic convulsions, followed by coma, during which latter state any irritation frequently caused the convulsion to reappear. In some cases the convulsions proved fatal, they could also usually be provoked by giving the animals ment. A very striking fact observed in all the animals was the presence of a considerable amount of carbamic acid in the urine—a circumstance which led the writers to surmise that this might be the factor producing the peculiar conditions observed. To determine the point a number of experiments were made on healthy animals by introducing carbamate of sodium or calcium into the circulation. These appeared to warrant the conclusion that the toxic action observed in the first series was due to carbamic acid, and that the liver has amongst other functions that of transforming the carbamic acid which collects in the blood in normal conditions into urea.

THE BRESSA PRIZE

THE Turin Academy of Sciences, in the terms of Dr Cesare Alessandro Bressa's will, announces that the competition for the prize for the best scientific work and discoveries made in the four years from 1889 to 1892—a competition restricted to Italians—closed on Dec 31st, 1892. Now, however, the competition for the ninth Bressa prize is open, and scientists and inventors or discoverers of all nationalities are invited to come forward. The conditions are thus stated: "The prize will be awarded to the person, whatever his nation who during the quadrennium 1891-94, in the judgment of the Turin Academy of Sciences shall have made the most remarkable and most useful discovery or produced the most distinguished work in the fields of physical and experimental science, of natural history, of mathematics pure and applied, of chemistry or of physiology and pathology, not excluding geology, history, geography or statistics."

ability, and others not less fit for the work of organisation. Professor Paghani is its president, and under his energetic auspices circulars inviting the contribution of specimens of every kind of medical *matériel* are now ready for transmission to pharmacutists, surgical instrument makers, food manufacturers, wine growers, mineral water agents—to all, in short, who cater for the professional requirements of the practitioner. Many of these specimen contributions, indeed, are on their way to the 'Esposizione,' their contributors being, not unnaturally, interested in securing an advantageous *locale* for their contributions. The alimentary and wine departments will, I have good reason to know, be richly represented not only by Italian purveyors and by British houses established in Italy, but by those of other nationalities—Swiss, Austrian and German in particular. For all contributors from abroad the Commendatore Paghani is exerting his great influence—parliamentary, social and professional—to secure facilities for the convenient consignment of their wares *en route* to the Exposition by reducing railway charges and minimising Custom House formalities to the vanishing point. That the 'Esposizione' shall be 'la nota saliente' (the outstanding feature) of the Eleventh International Congress of Medicine and Surgery is the avowed object of the Commendatore Paghani and his coadjutors on the committee, and certainly they are sparing no effort to be as good as their word."

EMPLOYMENT FOR THE BLIND

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appointment filled by an Austrian. For the present the duties of the chair will be undertaken by Dr F Kraus, *dozent in Medicine*

SOME little commotion arose at a meeting of the City Commissioners of Sewers on Monday by the reading of a communication from the Thames Conservancy Board in reference to the proposal of the Commission to place a temporary floating hospital on the Thames between London and Southwark bridges. It appears that parties connected with the traffic on the river are strongly opposed to the proposition on account of the problematical danger which might result to the riparian population. In the end the letter was referred to the Sanitary Committee.

AN inquiry was held on Tuesday and Wednesday last by Mr Hedley and Dr Downes, Inspectors of the Local Government Board, at Tooting, in reference to the proposal of the Metropolitan Asylums Board to erect an infectious diseases hospital at Tooting Common. The Asylums Board and the opponents of the scheme were respectively represented by counsel. After the examination of several witnesses the inquiry was concluded.

DR. GIUSEPPE LAPPOSI has been appointed, by special decree, *Archiatro Pontificio* (consultant in chief to the supreme Pontiff), in succession to Dr Alessandro Ceccarelli, deceased, and (also in succession to Dr Ceccarelli) he has been nominated *Direttore dell' Ufficio d'Igiene dei Palazzi Apostolici* (Sanitary Director of the Vatican and Lateran Palaces and of Castel Gandolfo, the summer residence of the Popes).

THE Port of London Sanitary Authority has just issued by laws providing for the removal from vessels within the port of persons who shall have been found to be suffering from infectious diseases accounted to be dangerous and a list of which is scheduled. Breach of these by laws renders the offender liable to a penalty of £5, with a further fine of 40s a day after notice has been given by the authority.

ON our account last week of the annual general meeting of the Royal Medical and Chirurgical Society we omitted to mention that the Fellows, upon the recommendation of the Council, unanimously awarded the Quinquennial Marshall Hall Prize of £80 to Dr W. R. Gowers for his original work in relation to Diseases of the Nervous System.

IN consequence of the numerous applications for tickets of admission to the Croonian Lecture of the Royal Society, which is to be delivered by Professor R. Virchow at 4.30 P.M. on the 16th inst., it has been decided to hold the meeting in the theatre of the London University, which has been kindly lent for the occasion by the Senate.

DR. THORNE THORNE, C.B., medical officer of the Local Government Board who has been appointed as a British delegate to the International Sanitary Conference, left London on Tuesday last for Dresden. He will be assisted by Mr H. Farnall of the Foreign Office. Dr Thorne, it will be remembered acted in the same capacity at Paris in 1889.

RAGNIT, in Eastern Prussia, has says Dalziel's agency been visited with a malignant epidemic. The plague is daily increasing in intensity and all the schools have been closed.

ON Monday last, March 6th, Sir Joseph Lister was elected a Foreign Associate of the Academy of Sciences of the Institute of France.

LORD SANDHURST, Under Secretary of State for War, opened the new infirmary at the Royal Arsenal, Woolwich, on the 8th inst.

THE meeting of the British Association next year will be held at Oxford, and will have as its President the Marquis of Salisbury.

Pharmacology and Therapeutics.

METHYLENE BLUE IN MALARIAL FEVER.

METHYLENE BLUE, which had been recommended as a remedy in malarial fever by Guttman, Ehrlich, Bourdillon and others, has recently been systematically tested by Professor Parenski and Dr Blatteis of Cracow, who state that in thirty three cases of malarial fever out of thirty five a complete cure was obtained by its means. It was administered sometimes by the mouth in the form of powders six or seven grains being ordered two or three times daily, and sometimes hypodermically, a Pravaz syringe of a 10 per cent. solution being injected twice a day. These injections caused but little pain and in no case gave rise to suppuration. When given by the stomach vomiting was sometimes produced at first, and if the doses were large, some discomfort in passing urine was experienced, which however, was readily combated by the simultaneous administration of carbonate of magnesia. Another well known effect of the drug was to colour the stools blue, while the urine became green and the sputa and perspiration partook somewhat of the same tint. The therapeutic action manifested itself by a beneficial effect on the febrile attacks on the hypertrophy of the spleen, on the number of plasmodia and on the various symptoms accompanying the fever. The febrile attacks generally ceased after from three to five hypodermic injections, after from three to six doses of methylene blue the spleen rapidly decreased in size, the plasmodia often disappeared from the blood after two or three doses, and the accompanying symptoms such as headache and gastralgia yielded more quickly to methylene blue than to quinine. Dr Moncorvo has also been employing methylene blue in malaria. In all cases the patients bore the drug well. There was never any diarrhoea, polyuria or albumuria, as some observers have reported. In one case however, there was some transitory vesical tenesmus. Dr Moncorvo remarks that the tastelessness of the aniline derivative has much to recommend it in the case of children, quinine being difficult to administer.

THE MANUFACTURE OF NITRO BENZOL AND DI NITRO BENZOL.

The risks arising in the manufacture and handling of nitrobenzol and di nitro benzol and the precautions which should be adopted form the subject of an interesting report to the Secretary of State for the Home Department by Dr Dupré and Commander Hamilton P. Smith, R.N. Attention has recently been drawn to the subject by various writers notably by Dr R. Prosser White, of Wigan. In the report before us after a brief description of the mode of preparation and the physical properties of the pure substances Dr Dupré and Commander Smith state that the ordinary commercial di nitro-benzol generally contains a greater or lesser amount of impurities and that these considerably increase the danger incurred in working. This may be because their vapours are poisonous, but it is more probably because the impure slightly greasy di nitro-benzol adheres more readily to the fingers and is more easily absorbed through the skin. It is suggested that manufacturers of explosives should, if possible, use only di nitro benzol, which is practically free from smell which produces no greasy stain when rubbed on paper and which does not sensibly volatilise at ordinary temperatures. Dr Dupré and Commander Smith are of opinion that although nitro benzol taken internally acts as a poison, no injury to the health of the workers in the manufacture of nitro-benzol results with the ordinary precaution of sufficient ventilation. Abundant evidence of a negative kind seems to prove that exposure to the fumes of nitro-benzol is not attended with danger. With the di nitro-benzol however, they have arrived at very different conclusions confirmatory of the opinion that this substance is a dangerous poison to workers who handle it or who inhale fumes or dust in places where it forms an ingredient in the manufacture. Masters and men

The competition closes on Dec 31st, 1894. The sum set apart for the prize, after deducting the Italian income tax (*ricchezza mobile*), amounts to 10,418 fr (£418 13s 4d). All competitors must, within the above named period, communicate by letter with the President of the Academy and at the same time present the works with which they intend to compete. The work must be printed, manuscripts being excluded from consideration. The unsuccessful works will be returned to their authors on a special request made within six months from the adjudication of the prize. No Italian member of the Academy, resident or non resident, can compete or receive the award. The Academy reserves its right to bestow the prize on the "most worthy scientific man," although he may not have entered the competition.

MUSIC AS AN AID TO MEDICINE

MUSIC, which has of late been sending forth new trial shoots in the field of therapeutics, was again brought under the notice of the profession in this connexion by Dr J G Blackman in the January number of the *Medical Magazine*. Defined by this author as the language of sounds, its effects are briefly stated to consist in the production of motion, with liberation of nerve force and a generally pleasant result. The observations of Dogiel are again quoted as proving its regulating effect upon the circulatory system and its consequent close relation to tissue nutrition. It is doubtless in this way that its exhilarating or calmative influence in conditions of mental disease may best be explained. The article above mentioned is interesting to us as conveying the first definite statistical evidence we have met with respecting the employment of music in clinical medicine. The observations of Dr J Ewing Hunter at the Helensburgh Hospital go to show that amongst the obvious effects of its use relief of pain has in many cases been most marked, and we are also informed that rapid reduction of temperature in a case of peritonitis appeared to have a similar origin. Of course we must in all such cases make due allowance for the possibility of a *post* and *propter hoc* fallacy and we should certainly exceed every known sanction of science if we were to claim for music a distinctly curative influence in organic lesions. Nevertheless the fact remains that healthy nerve tone has much to do with tissue nutrition and that music as a recognised agent in its production has thus far a place—albeit a subordinate one—amongst the extra pharmacopœial remedies available for the purposes of the physician.

PARASITIC ORIGIN OF CANCER

THE last two sittings of the Pathological Society have been occupied with an interesting discussion on a paper by Mr Jackson Clarke dealing with the parasitic origin of malignant cancer and sarcomatous diseases. In recent years the evidence on this point has been gradually growing stronger and stronger, and the attention of pathologists has been more and more drawn to the consideration of certain forms of organisms that have been described as present in cancer. Scheuerlen first ascribed the symptoms of irritation to the presence of a bacillus—a bacillus which we now know is frequently met with in the skin and probably plays little part as an active etiological factor in the production of cancer, then more recently it has been supposed (1) that budding fungi, (2) that psorosperms, or some similar parasite, might play a part in setting up the necessary process of irritation in cancer. Now, however, we find an observer coming forward to state that in both cancer and sarcoma an enormous number of spore bearing organisms and free spores may be demonstrated in every specimen in these malignant growths. He maintains that they are not mere dividing protozoa but that they are more or less closely related to the spore bearing psorosperms. Such a contention naturally met with very considerable opposition, as

its acceptance is almost equal to postulating that a large proportion of such tumours, hitherto recognised as being degenerated cells, giant cells and invading leucocytes, must be looked upon as being parasitic psorosperms in various stages of development. Whatever the immediate outcome of the discussion may be, it can ultimately lead to nothing but good, as it will necessarily draw the attention of a considerable number of histologists to an aspect of the pathology of malignant disease which, though studied by individual observers, has not yet been generally considered.

THE LATE DR HAYES AGNEW

In the *University Medical Magazine* for February, 1893, is published a Memoir of the late Dr Hayes Agnew, prepared by Dr J William White and read before the College of Physicians of Philadelphia. Dr White was for many years closely associated with Dr Agnew in both hospital and private work and had the best opportunities of becoming thoroughly acquainted with him. His highly appreciative memoir will be greatly valued by the large number of surgeons by whom Dr Agnew's memory will always be cherished.

THE SALE OF STAMPED PROPRIETARY MEDICINES

AN indication of the importance attached to the decision given in the recent chlorodyne test action is to be found in a circular issued by the executive of the Federation of Grocers' Associations. This circular frankly recognises that it has been decided that no person, not being a properly qualified druggist, can legally sell "poisons," as a practical outcome a list is given of preparations which have been labeled "poison" and thus come within this decision, it is therefore recommended that they should at once be withdrawn from sale by grocers. The list comprises forty three articles and includes many sedatives, cough lozenges, syrups and vermin killers—some with familiar names, a few with titles which give no indication of the purpose for which they may be employed or of their composition. Many are preparations of active poisons which have already been credited with causing many fatalities and we are glad to see that they will no longer be retailed freely by grocers. After this distinct warning from the side of the trade it is to be hoped that the numbers of "misadventures" and "accidents" may be diminished. It is at any rate satisfactory to find that, although leave of appeal against the chlorodyne decision was granted, the members of the trade have not waited longer before taking active steps to minimise the risks to the public and also to themselves.

FOREIGN UNIVERSITY INTELLIGENCE.

Clausenburg—Dr Josef Löte has been promoted to the Ordinary Professorship of General Pathology and Therapeutics.—Drs Engel and Göth have been promoted to Extraordinary Professorships of Midwifery.

Leipzig—Drs Lenhart, Karg, and Döderlein have been appointed Professors.

Tomsk—The professors and other members of the Scientific Association have contributed several very remarkable papers, which are published in the Transactions of the Association. Great credit is given them in Russian scientific circles for the energetic way in which they have managed to carry on scientific research in a very isolated locality and with a great lack of appliances and assistance. Grave complaints are beginning to make themselves heard of the darkness and unsuitability of the rooms assigned as laboratories. The University building, too, though only five years old, is in a very defective state, large cracks in the walls having made their appearance.

Vienna—Objections have been raised to the gentlemen proposed for the vacant chair of Medicine on the score of their being foreigners and an effort is being made to get the

the detailed work. There is no resident medical or other superintendent, and the chairman of the managing committee was of opinion that much opposition would be offered to such an appointment. At the Charing cross Hospital, which is in financial difficulties, the daily management is in the hands of the secretary, who is non resident, but the chaplain is the highest resident officer, and either of them would in any serious emergency refer to one of the treasurers. At the Westminster Hospital the secretary has a general control over the establishment, but the precise limits of his authority are not strictly defined. Both he and the chaplain are non resident, and there is no resident medical superintendent. There are several committees for detailed duties.

The above are sufficient to show that the chief routine work of these institutions is performed by committees, and that the principles of procedure and action are very much the same in all. The medical staffs have little or no control over the management, and there is in no case a single responsible resident medical officer with full power, as in the Poor law infirmaries, to control and direct, subject to official inspection and audit and to the supreme authority of the guardians of the district. There is no reason to doubt that most, if not all, of these numerous and varied committees do their work fairly well, but the absence of all direct and immediate personal responsibility, I think, fatal to thoroughly efficient control and economical management, which latter appears to me to demand more attention than it receives otherwise there would not be such extensive differences in the cost of the same class of work, as Mr Burdett has shown in his most useful writings on the subject. Outside all these conditions, important as they are, is the fact that the primary function of all hospitals is the successful treatment of disease in the widest sense of the word, and the collateral and contingent benefits to the poor of which they are such beneficial agents. To this all other relations, scientific and administrative, should be absolutely subordinated.

What, then, are the cardinal conditions which ought to be observed in the executive management of all hospitals to extract the largest amount of benefit from them, in their important relations to the public and to the profession most immediately concerned in their efficiency? The question is very old and was thus answered by Sir William Blizard a century since. "The value of medical science in every walk of life, independently of its application in preventing and curing disease, should be seriously considered. All men are indebted to the discoverers and cultivators of natural truths for some share of their useful knowledge and of the felicity they enjoy. Many, therefore, are the objects interesting to society that present themselves in contemplating the professional concerns of a hospital, and as in commercial and other affairs, they will be best understood by those who have most devoted their time and attention to the subject. Every thing liberal may be expected where charity is the governing principle of action, and where the good done bears proportion to the degree of knowledge exercised. Parity of motive, sincerity of attention in the surgeons will not then be doubted. It may not, however, be improper to observe that their credit and interest are involved in all the proceedings of a hospital, for its prosperity is their interest, its depression their loss and regret."

I need not point the moral to show how injurious I consider the position occupied by the medical profession in the hospitals of London to be. The Committee whose report I am considering express disapproval of the manner of government of the endowed hospitals, and suggest a remedy which does not appear to me to be calculated to mend matters materially. Indeed, as it is tolerably certain to be objected to by those immediately concerned, it may operate injuriously in destroying the very small amount of direct personal responsibility at present in force in these institutions. As to the voluntary hospitals mentioned in the report, it was said that the systems of management greatly resembled each other, and that the evidence showed them to be generally well administered. This is doubtless correct as respects the limited scope of the inquiry, but as no records were examined, no institutions visited and none of the scientific results ascertained or recorded it must be accepted with some reserve. What appears to me to be really required is unity of executive control in skilled professional hands, under efficient administrative supervision by properly organised committees of each institution to preserve their autonomy added to independent inspection and audit, and all this can only be obtained by a radical change of system. This I shall endeavour to show in relation to the present unequal

distribution of the general hospitals of London, the total absence of all coöperation on the part of the institutions devoted to the care and treatment of the sick poor, the formation of a central board of supervision, the grouping of the hospitals in the different centres of the population of London, the federation of the clinical system, and the publication annually of a uniform system of accounts and of medical statistics, by which latter alone can the character and quality of the professional work performed be properly gauged.

The next subject referred to by the Committee is that of the admission of patients to the voluntary general hospitals—a very serious consideration to the sick poor, for whom all such places were originally established, and for whom they are still chiefly intended. Viewed from the standpoint of charity, the more recent guiding principle of admission is a distinct departure from that intention and purpose. The procuring of subscribers' letters although said to be very little resorted to now, and never so as to interfere injuriously with serious cases seeking admission at the same time, may be true, but it is a practice which ought nevertheless to be discontinued. It is a sort of benevolence which is inconsistent with true charity, from its great liability to abuse. When exercised, it can seldom be with the care and attention necessary to prevent its being bestowed upon some, at least, who are not objects of charity, and thus deprive others of beds who have a better claim to them.

If the admission of patients is faulty, still more so is their discharge, not only before cure, but when medicine has done little or nothing for them. To compel them at such a time to seek a refuge in the Poor law infirmaries, which they had endeavoured to avoid by entering a voluntary hospital, I cannot but consider a cruel proceeding, and one for which there is no valid plea of justification. To make way for a more interesting case or in any other way to subvert the interests of the institution to the manifest detriment of the sick I look upon as unjustifiable, and amongst the practices which are regarded by the French as inhuman in our system. Another proceeding of a similar character is, I think, almost as objectionable—viz, fixed days for admissions and discharges. These practices are, I believe, largely due to the operation of the voluntary system, inasmuch as in very many appeals for fresh subscriptions or funds urgently needed the large amount of cases treated is urged as a strong claim for more pecuniary aid. This is no test of the value of the work done or for determining its merits, as it would falsify the statistics of the institution were they prepared and published as they ought to be. MM Blondin and Sere, in contrasting the procedure of the two nations and particularising the peculiarities of the voluntary system, observe that English measures of relief are controlled to a great extent by the privileges of subscribers and donors and the sources generally of their incomes, whilst those of France are aimed only at providing the most complete succour and thus effecting the greatest possible good with it. The discharges from French hospitals are regulated with special care, to prevent the abuse of the resources of the hospital without prejudice to cases which need more prolonged care before discharge or transfer to one of the State convalescent asylums. I am of opinion that the imperfections of our system are susceptible of amendment by reconciling private and public charity in relation to disabling sickness where that is the cause of the temporary poverty that drives many honest persons to seek relief in institutions to which no civil disabilities are attached.

The last branch of this portion of the report of the Select Committee is the out-patient system, which has excited so much attention, and in which such extreme divergence of opinion existed. This divergence was so marked and most of the views so impossible to reconcile as to cause the Committee to formulate and discuss each of the contentions for and against the system in force. To consider these in detail, with the hope of extracting from them any leading principles to guide us in producing a complete working scheme, would, I think, be an unprofitable task, even were it practicable. The main objections entertained were, I think, established—viz, that either as instruments of relief or as measures of medical training the overwhelming numbers who crowded the out-patient rooms rendered the whole proceeding one of questionable value, even when not used for purposes of inflation, as baits for subscriptions, as injurious to the sick from hasty examination, incorrect diagnoses, or erroneous treatment, as characterised by want of discriminating persons able to pay for treatment, as stifling pro-

alike recognise the danger of the fumes in the manufacture of di nitro-benzol, and the precautions which are accordingly adopted appear to be adequate. The chief danger seems to lie in the fumes of di nitro benzol when it is used as an ingredient in the manufacture of explosives and when it is employed by the workers in mines. The precautions recommended consist partly in the careful selection of those who are physically fit for such employment, and they otherwise relate to efficient ventilation and to measures calculated to prevent absorption by the skin or by the respiratory passages. When di nitro-benzol has to be handled it is advised that the hands shall always be protected from direct contact with it either by the use of indiarubber gloves (kept perfectly clean, especially on the inner side) or by means of rags which can be destroyed after use. The whole report is reassuring in showing that the dangers are fully realised by all concerned in dealing with these substances and that adequate provision is generally adopted to minimise the risks.

CAUTION RESPECTING SULPHATE OF COPPER IN GYNÆCOLOGY

Sulphate of copper has been strongly recommended as a local application in endometritis by Dr Dumontpallier, who believes that it is superior to chloride of zinc, as it only produces superficial cauterisation, and according to him has no tendency to cause ultimate atresia of the os. He employs an elongated suppository made of equal parts of sulphate of copper and oatmeal. According to M Matignon, who recently read a paper on the subject before the Bordeaux Medical Society, sulphate of copper is by no means always so mild in its action as Dr Dumontpallier believes. In one of his cases, where a suppository containing seven grains and a half of the copper salt was inserted, the patient experienced four days afterwards severe uterine colic and vomiting, a quantity of false membrane was passed, in which microscopical examination showed all the elements of the uterine mucous membrane together with those of the subjacent muscular tissue. This was followed by a very perceptible diminution in the size of the cervical canal and also by a severe inflammatory attack in the uterine appendages. In two other cases where similar treatment was employed there was evidence of the caustic having destroyed the whole thickness of the mucous membrane and part of the muscular coat, some degree of atresia following. Notwithstanding these occasional inconveniences M Matignon does not suggest that sulphate of copper should be abandoned, as he finds it most useful in leucorrhœa, but he says that not more than three grains and a quarter should be used in the suppository.

ON THE ORGANISATION OF MEDICAL RELIEF IN THE METROPOLIS

By F J MOUNT, LL D, M D EDIN, F R C S ENG

III

It was my intention to have examined and analysed every branch of the system of management of the hospitals of the metropolis in the order observed in the able report of the Lords' Committee, but on carefully sifting the voluminous evidence I find that it will be impossible to do so in a reasonable compass, as much of that evidence is of little value, and it would be difficult to elaborate from it a practicable scheme to fit the varying conditions deemed necessary to remove the evils complained of. In the commencement of the report is given a brief outline of the present form of government and financial resources of each of the twelve most important endowed and voluntary hospitals within the area of the inquiry. The pervading principle of action in most of them is an administration by committees with no authoritative single resident executive chief to deal decisively with each contingency as it arises. The essence of authority in purely executive matters is to be one and indivisible. In some of them the ruling power is a lay treasurer, practically an autocrat, yet nominally subject to the controlling authority of various committees, with no connecting bond of action to secure continuity of procedure, and in which the lay element is so predominant that the trained and skilled professional agency by which the higher work of the institution is performed has no potential voice in its control and government. In noticing the endowed

hospitals it must be remembered that they are subject to the conditions of special charters which may possibly in some degree fetter their action and cause the retention of ancient practices which are not in harmony with existing views and circumstances. The records of these institutions, however, do not appear to have been examined by the Committee, and the accounts given by the authorities of each were not subjected to any special scrutiny to verify their accuracy. St Bartholomew's Hospital has a governing body of 273 members, self elected, with elaborate machinery for its management, in the real control of which its distinguished medical staff appears to have no place. The highest authority is the treasurer, who is non resident, and, although a most able and distinguished administrator, can scarcely have sufficient time for the thorough discharge of the important and onerous duties assigned to his office. At St. Thomas's Hospital the principal officers (apart from the medical and nursing staff) are a resident treasurer, who is the head of the institution, a receiver and a steward. There is a medical committee, comprising the medical staff, which meets once a week as a rule. All matters connected with the school come before them, and they recommend students to the treasurer and almoner for appointment to offices in the hospital. There is also a house committee, on which there are two retired medical officers on the consulting staff, together with the dean and senior physician and surgeon, who attend as consultants, but are not members of the committee. In the administrative government of this great hospital and school the professional staff has no real power.

Their lordships have pronounced it to be one of the model hospitals of the world—a view that is not generally taken by those who have spoken with authority on the subject. It is magnificent in its palatial construction and arrangement, but in this and other respects is more rightly regarded as a model to avoid than to imitate. In fact, the most recent leading hospitals of London and Paris are the greatest failures of our time, but, as this is the only point of hospital construction noticed by the Committee, it is not necessary to go further into the matter. Palaces are not required for the sick poor, more especially since the practical extinction of hospitalism in surgery by the discoveries of Lister and in medicine, scarcely in a minor degree, by the labours of Pasteur and others. Guy's Hospital is exceptional in many ways, and although it has a resident medical superintendent he has no strictly medical duties to perform, his function being to act as an aid to the treasurer. With an income considerably reduced by the lowered value of its landed property it has still an annual command of £26,000 with which it is unable to fill its beds, and therefore some short time since raised £100,000 apparently to enable it to do so. This sum is employed in instalments for its current wants, and might, I venture to think, have been more profitably used in adding to its permanent resources. It has likewise paying patients and a small addition to its funds by a trifling fee levied on out-door patients. It is in reality under the control of an able resident treasurer, who has several consultative committees to assist him in its management, but in practice his authority is absolute, and his views, as contained in his evidence, have been moulded in an entirely different and higher sphere of action.

Apparently with a view to remedy some of the anomalies of management, and considering the power entrusted to the treasurers to be too great, the Committee suggest that "in all these endowed hospitals the management should be carried on by a system of weekly boards and subcommittees," a proceeding which may possibly mitigate some of the defects of the existing system of control, but does not touch the root of the evil.

One or two examples of the manner in which matters are managed in some of the voluntary general hospitals will be sufficient to indicate the procedure of the whole of them, as the principle of action is very much the same, and the variations mere details adapted to local circumstances. At King's College Hospital the secretary, who is also at present the chaplain and warden and is non resident, is the head officer and has supreme controlling authority in the absence of a committee of management of twenty-four governors elected at the annual court. Of this committee the Principal of King's College Hospital and the treasurer are official members, and some members of the medical staff are always on it. There is also a medical committee of the whole staff, who are said in general to take no active part in the management. There is a variety of other committees for

general management of the hospitals the public will lose their chief interest in those institutions, that their subscribers and supporters would fall away, and that the working classes would cease to exercise thrift in providing against sickness, even to the extent to which they now practise it in becoming members of sick clubs and friendly societies. I hope and believe that this would not be the case. There is not the same indisposition to resort to a hospital that there is to enter a workhouse, and if they were assured of timely aid when it is needed and welcome, without wasting hours and some times days, in endeavouring to procure subscribers' letters, they would soon learn to contribute to its maintenance as a harbour of refuge in their own hour of trial. It is also, in my opinion, an absolute delusion to imagine that our most intelligent artisans, and even those lower in the social scale than themselves, are not alive to their own interests or that they are possessed of erroneous notions of social economy in relation to their immediate surroundings. It is the class immediately above them who appear to crowd the outpatient department and apply for in-door relief, and what can be more demoralising and destructive of every feeling of self restraint and self respect than those seeking gratuitous medical aid under a false pretence of poverty?

It would, I think, be an undeserved reflection upon those better off in the world to suppose that they would close their hearts and their purse-strings to appeals properly prepared on behalf of the hospitals, even if a part of the burden of support were borne by the community at large through the agency of the State. The really unselfish and benevolent are the few, the selfish and indifferent are the many. The whole cost of maintenance falls upon the former. Any plan then that would distribute the duty fairly among all bound to contribute to it in a manner which admits of no evasion would enable the really charitable to continue their present efforts with a better chance of success than now obtains. There will always remain a wide margin of distress which no public agency can touch, and which must for ever remain the privilege of those whose ears are always open to the cry of anguish and whose hearts are moved to its relief by the agency of personal sympathy and support.

In my next communication I propose to deal with the question of coöperation from the scientific side.

CHOLERA.

THE absence of news about any extensive prevalence of this disease at the present time is satisfactory. That it still prevails however, to some extent in Russia is no doubt true, but no official statements or reports have reached us since those published in the *Official Gazette* to which we referred last week, as to there being signs of its wide diffusion in that country or of its presence in frontier provinces like Podolia and Kieff.

As regards the Dresden International Conference, some political difficulty has, it appears arisen in Roumania owing to the action of Austria and Russia in insisting that the question of the Danube ports quarantine regulations shall be discussed. Roumania is very sensitive about her rights on the Danube, and the Roumanian Government have urged that its position and jurisdiction in regard to these quarantine regulations should be finally settled first of all. The matters to be discussed at the Conference are of international interest and for the welfare of all in common, and it is therefore highly probable that a satisfactory understanding will be arrived at and that all the Powers interested—as they all are—will take part in the Congress.

CHOLERA IN FRANCE

(FROM OUR SPECIAL CORRESPONDENT)

A VISIT TO PORTEL.

English Visitors at Boulogne—Tourists at Portel—Resistance to Sanitary Measures—Contamination of Wells and Streets—High Cholera Mortality

THERE is probably no town outside England better known to the English than Boulogne-sur-Mer. The number of English visitors and residents at this agreeable sea bathing station is exceptional. The town is within an hour's railway

journey of Calais, and *via* Folkestone is less than five hours' journey from London. Communications between London and Boulogne are frequent and easy. The Londoner who spends his holiday at Boulogne can enjoy the advantage of going abroad whilst incurring but little trouble or expense and remaining within easy reach of London. This, combined with the attractions of the picturesque old town, the Casino, and the magnificent sands, contribute to render Boulogne the most popular French bathing place for English visitors. It would therefore prove a matter of more than usual concern should a severe cholera epidemic break out there. Unfortunately Boulogne has not been exempt from some cases of cholera, and at Portel, which may be considered one of its suburbs, there has been a very severe epidemic. Portel is a picturesque village on the coast, little more than three miles from Boulogne. Indeed, with the exception of a distance of about 500 yards, the whole of the road from Boulogne to Portel is lined with houses. The connexion between the two places is the closer from the fact that Boulogne is the port for Portel and the majority of the inhabitants of the latter place are engaged in fishing. The Portel fishing smacks bring their fish to the Boulogne harbour, and the Portel fishwives meet the boats and help to unload them. The road between Portel and Boulogne is peopled with the fishing population going backwards and forwards from their boats in the Boulogne harbour to their homes at Portel. It was therefore a very serious matter for Boulogne when cholera broke out at Portel. Many of the visitors to the former make excursions to the latter place. Portel has a fine beach surrounded by high cliffs. Here the bathing is free, a fact which does not fail to attract a good many people. A few families come and spend their summer holidays at Portel, where the cost of living is much cheaper than at Boulogne and where lodgings of a very modest description can be found in the houses of some of the inhabitants. Most of the houses are more like cottages, having but one or occasionally two storeys. They are whitewashed, but often colour is mixed with the whitewash, so that there are light blue, green, yellow and brown houses, all of them enlivened with very bright green shutters. The roofs are tall, of red tile, with attic windows, and the houses have very frequently but one floor, the ground floor, unless there be a cellar, though it is difficult to account for such cellars, as land is cheap and it would be much better to build the houses a storey higher. Still, there are cellars and these are not only used for lumber &c., but are sometimes inhabited. The beach is reached by steps cut in the rock or by a winding footway which follows a stream or small torrent that debouches into the sea in the centre of the little bay where the sand has accumulated. On all sides gutters converge upon the beach or into this stream. The declivities are steep and the water rushes along the gutters bearing to the sea rubbish of all sorts, fragments of fish and vegetables, soapsuds and the fresh blood and offal from small private slaughterhouses. Children are to be seen in all directions playing on the sandy soil of the streets and floating paper boats in the dirty gutters. The first case of cholera is stated to have occurred on Sept. 17th, 1892, and the victim was a child only four months old. The second case was also that of a child, a girl nearly three years old. There had been no cholera at Portel since 1848, and many different theories were propounded to explain the recent epidemic. According to one theory the cholera was imported from Ostend where a woman from Portel had been to fetch two of her children. Her husband was taken ill as also were a friend and neighbour. The neighbour, the weaker man of the two died first but this did not occur till a fortnight after the two children had returned from Ostend. There was, however, far more cholera at Paris than at Ostend, and, if two children came from Ostend, there were several hundred visitors who came from Paris. Apart from the few persons who spend their holidays at Portel, omnibuses travel backwards and forwards daily and frequently between Boulogne and Portel. Excursionists from Paris to Boulogne profit by these omnibuses to visit Portel where they can enjoy free of cost, a dip in the sea. Out of these hundreds of visitors it is more than probable that one or more were attacked by choleraic diarrhoea whilst at Portel. The same doubtless also occurred at Boulogne, but then Boulogne is a better drained town. At Portel some of the houses have porous cesspools—*bétoires*—so built as to allow their contents to escape into the subsoil. Other houses have only small pails, which are occasionally emptied into the sea. But a great many houses have neither *bétoires* nor pails they simply throw

vident dispensaries in their vicinity, and as interfering injuriously with the rights of general practitioners, whose practice is chiefly amongst the classes who resort most to the out patients' department. There were other objections stated which do not require special mention.

That an out-patient department is absolutely necessary for the success of a hospital and that its absence would amount to a national calamity can scarcely be accepted as correct when as an instrument either of relief or instruction it is in general use in no other country than our own. Elsewhere—in Edinburgh, for example, and in some of the hospitals of the United States—there is no difficulty in filling wards with suitable cases for clinical or other purposes and in giving relief in attacks of disease which do not need hospital in-door treatment. In those countries and places as complete and scientific a medical training as in our own is afforded without the aid of such an institution. In Paris, where I have seen the practice in use, the manner in which admissions are dealt with by the Assistance Publique is far more satisfactory and complete than our own, and I have worked a system myself in a dispensary, as a source of supply to the great hospital of which I was then first physician, with perfect success. The other extreme view submitted to the Committee, that an out-patient department is absolutely useless, cannot be accepted by anyone who has a practical knowledge of the matter.

Since the professional inquiry of 1870 some amendment has been effected by restricting the numbers admitted to out-door departments and by the adoption of somewhat better means of eliminating those who have no business to find their way there, but I fear that these palliative measures will not cure the evil. The general practitioners and dispensaries are both, I think, injuriously affected by the competition of the hospitals, and I see little prospect of this being amended until the whole question of hospital management, medical education and relief of sickness connected with it are placed on a different footing, as parts of a general scheme of reorganisation. This, should it ever be accomplished, as it doubtless will in time, will need careful inquiry respecting each institution which now has a separate and uncontrolled existence. All that appears to me to be necessary at present is to ascertain what may, after due consideration, be ultimately required, and what portions of it can be effected at once with as little interference as possible with the *status quo*. The problem has been partially solved as respects the poor by the Metropolitan Poor law Act of 1867 and the Medical Relief Disqualification Act of 1888. The extension of the principle of the latter to the Poor law infirmaries would at once provide all the in-door medical relief in acute disease needed for those temporarily disabled by sickness, that is required for London. In the voluntary hospitals and all dispensaries what is practicable at once without disturbing their autonomy is the introduction of a uniform system of record of their work, an independent audit of their accounts, and skilled inspection under the authority of a central board, which all are said to desire, but none appear ready to welcome. Once established on a satisfactory footing, if worked with care and discrimination, it would soon acquire such a knowledge of defects and imperfections as to lead to their correction without any violent interference with vested rights and cherished sentiments.

Want of cooperation.—The absence of cooperation between the general hospitals, the dispensaries, the Poor law infirmaries and the private practitioners affected by them was so well apprehended and stated by the Committee that I here reproduce their remarks in their own words.

"So far from there being at the present time any general system of combination or any definite division of work amongst the various institutions, they are, on the contrary, for the most part competing with one another at every point for public support and to a great extent for patients. This condition of things is shown to be wasteful as regards subscriptions of the public, and prejudicial not only to the public who subscribe their money, and to the sick, for whom the institutions exist, but also to the interest of medical science and education, since a wide field for observation and practice is closed to the clinical teacher and his pupils, whilst the hospitals for the sake of their schools, lest the requisite material should fail, are driven to take in and treat a crowd of patients unsuitable for hospital treatment, and the general practitioner complains that he is being 'ruined.' The above are the evils of the present system, or want of system, but little has been done heretofore to cure, to remedy or remove them. A few feeble attempts were

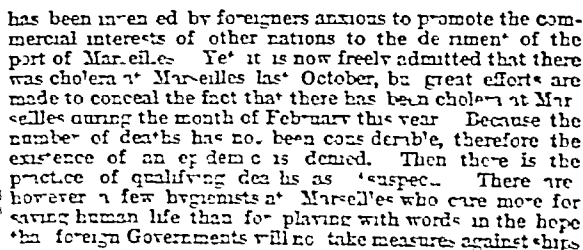
made in the direction of combined action, but they all failed, as might be expected, since isolated efforts would be of no value in such a matter. The true method of dealing with it was formulated by Sir T. Fowell Buxton in 1878, who wrote in a remarkable letter to *The Times* as follows—

"From a long acquaintance with hospital management I am convinced that its principal defects both in London and the country arise from want of organisation and cooperation and from the absence of all central control and of Government inspection. If the hospital system were complete, each central hospital would be surrounded by its satellites of dispensaries, cottage hospitals, special hospitals, convalescent hospitals, convalescent homes &c., which would intercept numberless cases which otherwise burden the wards of the hospital, and would furnish advanced education for the pupils of its school. Without some such authority as is possessed by School Boards it is impossible to organise such a body as this or to promote the scientific training of nurses. I do not believe that hospitals, upon which the demands increase year by year, can much longer keep pace with the requirements of modern medical practice or the precarious support of voluntary contributions, and I earnestly hope that Parliament will take the matter in hand before it is forced upon its notice by the collapse of some important institutions." No cooperation of any kind can be expected in existing circumstances or by voluntary efforts. The authority of the State, therefore, is necessary to inaugurate such a movement, and however unacceptable it may be in the first instance, it will soon be perceived that it was required in the public interests.

To what extent, then, should the State interfere in the matter without detriment to the autonomy of any of the voluntary hospitals or dispensaries? It should, I am of opinion, neither possess nor exercise any power of direct interference with local action, all control and immediate management being placed entirely in the hands of those in whom the direction of the institution is placed, either by selection, election, or any other manner in which these appointments are at present made. But it should, I submit, both possess and exercise authority to cause all such institutions to be inspected periodically by some independent agency to see that all rules and regulations for their management are carefully observed, that their books and records are properly kept, that proper facilities for admission and treatment are afforded, and that the funds from whatever source obtained are not wasted by needless extravagance, either for building or management, or in the maintenance of the schools attached to some of the hospitals, which latter should all be self-supporting. The inspector should invariably be accompanied by the resident controlling authority of the institution, to explain all matters that may need explanation and to afford any information the inspector may deem it necessary to call for. There should be nothing inquisitorial or calculated to interfere with local action or diminish personal responsibility in this inspection, the result of which should be duly reported to whatever central body may be created and appointed hereafter for consideration and action when any action may be required—such action being assigned with their consent to the authorities of the hospital concerned. At one of the conferences held in London the voluntary hospitals were defined to be "private associations performing public duties," and this being admitted, a public duty involves a public responsibility for its due and proper performance. This is a principle applied to many institutions of a more strictly private character than voluntary hospitals, such as lunatic asylums, mines, factories, *et ad genus omne*, and in none is it more imperatively needed than in our voluntary hospitals, for in the general hospitals of that class are contained the most helpless of all classes of the poor—the sick poor. They assuredly ought not to be left to the instability of precarious and uncertain charity, of which the plaintive and pitiful cry of "funds urgently required and beds unoccupied for want of funds" is constantly heard, proving how great are the present pressure and breakdown.

The moderate amount of public control suggested will probably be met with the customary contention of its checking the free exercise of the judgment of the practitioner in the treatment of disease, of diminishing his personal responsibility in the momentous issues of life and death, and of interfering with that liberty of action which induces us to tolerate all sorts of abuses many of them the outcome of the perverted sentimentality which is one of the most regrettable reproaches of the present time. The most serious obstacles will be the belief that when the State steps in to supervise the

Mystery hangs over the cholera at Marseilles. A great deal of unnecessary word fencing is indulged in that may mislead the casual inquirer, but which, as far as I have been able to judge, tends rather to exaggerate than to mitigate the evil. If anyone speaks of cholera he is authoritatively told at the Mairie as at the Préfecture, that there is no cholera epidemic. Then insinuations sometimes not altogether pleasant, are made that the cholera



their night-soil out into the street or on to the nearest heap of rubbish. Thus the dejections of a visitor from Paris, or some other infected locality, suffering from a mild attack of cholera might very easily have been mixed with the sand and earth of the street, where the children play about. If the soil of the streets was contaminated it was natural that the children playing and rolling about in the streets should be the first victims. The total absence of sewers, the frequent influx of visitors when cholera prevailed in so many parts of France, the throwing out of dejecta into the streets that constitute the playground of children, these facts alone suffice to account for the outbreak of cholera.

The epidemic having once begun, its rapid spread and disastrous effects can with equal facility be explained. First, there was the usual attempt at concealment, then a most determined resistance to all prophylactic measures. There are also a great number of very poor and intemperate people, and of course they were the principal sufferers. Yet some of the cleaner and wealthier sections of the population likewise suffered. One rather interesting case is that of a woman aged thirty-eight years and her child aged five years. Both died from cholera. The woman was strong, very clean and healthy, and lived in a good, well kept house. This woman was, however, a thorough miser, and though possessing ample means could never be induced to spend sufficient money on the purchase of food. Then there is the case of a very healthy, robust man aged forty-two. At two o'clock one afternoon he helped to carry a body and bury a woman who had died from cholera, at eight o'clock the next evening he himself died from the same disease. The linen of a woman who had died from cholera was washed on a Sunday morning at eight o'clock by a woman aged twenty-two years, of robust health, and whom the mayor described to me as being "built like a wall." In the afternoon this woman was seized with violent vomiting and she died on the day following at 4 p.m. The linen she washed had not been disinfected, the apparatus for disinfection had not yet been sent to Portel.

When it became known that cholera had broken out at Portel, the Minister of the Interior gave orders that a portable stove for disinfection by steam superheated under pressure should at once be sent to that place, and as there is no hospital available in the district a Tollet ambulance tent was also lent by the Government. These tents, resting on Gothic shaped iron arches, make very strong portable hospitals that will resist the wind even when blowing very strongly. Instead, however, of considering themselves fortunate in the possession of an isolation hospital, the inhabitants of Portel gathered in force and threatened to destroy the ambulance. Gendarmes had to be employed to protect the men who were engaged in putting up the field hospital. When this work was accomplished not one of the numerous patients would consent to allow himself to be taken to the hospital thus provided. As the mayor would not assume the responsibility of ordering the forcible removal of the patients the tent was of no use whatever, and it was subsequently removed to the neighbouring village of St Etienne. Cholera had reached this village, and its inhabitants, less superstitious, less ignorant and prejudiced than the fishermen of Portel, gladly waived themselves of the tent hospital, and it there proved of great use in preventing the spread of the disease.

The Commission of Hygiene of the Boulogne arrondissement met and urged that all the wells at Portel should be closed. These are mere surface wells and are all exposed to contamination. The municipality of Boulogne offered to supply water to Portel gratuitously if the municipality of the place would go to the expense of sending horses to fetch the water carts from Boulogne, but the people of Portel would not listen to this offer. They strongly objected to incurring any expense and, above all, would not allow their wells to be closed. The sub-prefect, with the "doctor for epidemics," and a posse of gendarmes to protect them, went to Portel and forcibly carried away the piston rods of the pumps connected with the wells that were most likely to be contaminated, but two or three days afterwards the people removed the stones covering the wells and, with ropes and buckets, got water out of them. So little was the danger of drinking well water understood that the mayor of Portel was about to issue a proclamation to his electors explaining that he was not responsible for the closing of the wells. Fortunately the sub-prefect heard of this in time to explain to the mayor that it was his duty to strengthen the moral

authority of the Government and not to appear as if he disapproved of what had been done. Notwithstanding the resistance and ill will of the inhabitants of Portel, a great deal was done on their behalf, and the mayor expressed to me personally the gratitude he felt, and was anxious that public attention should be called to the devotion shown by outsiders. Thus Dr Orion, "doctor for epidemics," came repeatedly from Boulogne and went bravely into the foulest dens to attend the sick. Dr Houzel also came from Boulogne, and both these gentlemen worked very hard and gratuitously. The Minister of the Interior despatched Dr Pierre Aymard and Dr Girocle, and two Sisters of the Bon Secours Order were also sent. Day and night the Sisters nursed the sick in their dirty, ill ventilated cottages, exposing themselves to every risk of contagion and showing the greatest self denial. Sulphate of copper in large quantities was distributed gratuitously, and many things—furniture, bedding &c.—likely to be contaminated were burnt. The rooms were disinfected by being stripped of their paper and, when quite bare, were washed with mercurial and carbolic acid solutions, yet in one particular house cholera broke out three different times, though on each occasion the premises had been very carefully disinfected. This seems to be exceptional. I had not before heard complaints of cholera breaking out again in a house that had been carefully disinfected, but the whole village was so thoroughly infected that it is easy to conceive how the specific germs might be carried again and again into a house, however carefully it might have been cleaned.

Of course, I made a point of visiting some of the houses where the greatest number of cases of cholera had occurred. Thus, in the Rue Victor Hugo I entered a house where a good many had occurred. In spite of all the disinfecting and all the cleaning I found the backyard of this cottage flooded with water in which rubbish and faecal matter were floating. There was no closet, no pail, no sanitary convenience whatever. The paper on the wall of the sitting room had dropped off in consequence of the damp, due, in a measure, to the chronic flooding of the back yard. In the Rue du Puits I came upon one of the principal wells of the town. There was a pump, and immediately below the pump was a square stone with a circular one fitted in the centre. A hole in the middle of the latter enabled a hook or the fingers to be inserted. The stone could thus be raised and direct access obtained to the water beneath. At the same time, through this same hole, dust, mud and water from the street could drop into the drinking water below, but, worse than this, people came with dirty utensils, pails and so forth, and washed and rinsed them out upon the stone with the water from the pump. It will be easily understood that the well water would thus be contaminated, and in a most dangerous and filthy manner, thus armed force had to be employed to prevent people drinking this water. In another very wretched house I found a mother with twin children, who were literally dying from starvation. The father had been carried away by cholera, leaving a widow and four children. The five slept and lived together in one very small damp room. A drain from the back yard to the gutter in front passed under this room and was very offensive. A little further on I found a row of houses built on a level, though the street rose, the houses at one end of the row were consequently some four or five feet below the street. A space in front of these houses had been made to give access to the doors, but, being below the level of the street, this sort of front yard or area could not be drained and there was a pool of green, stagnant, foul water. In a court a house was shown to me where two deaths had occurred, a wall in front of the dwelling room blocked out the light, and in the passage leading to the dwelling there were water offal and faecal matter which befouled the atmosphere. In another house near the beach, which used to be a *café*, there had been four cases and three deaths. The place was gloomy, with a stifling atmosphere, and this in spite of recent disinfection. Finally, I entered a cellar dwelling. It seemed more like a cave than a cellar. A wretched man, his wife and several children lived in this hole. The few sticks of furniture stood on the bare earth, as also did their bed, which was placed in a distant dark corner. It was only the front part of this cave that received a little light and air from the street. For this wretched home these people paid only 2s. 10d. per month. This is a small enough sum, and they certainly could not expect good accommodation for such a price, but the question is whether people who cannot afford for a whole

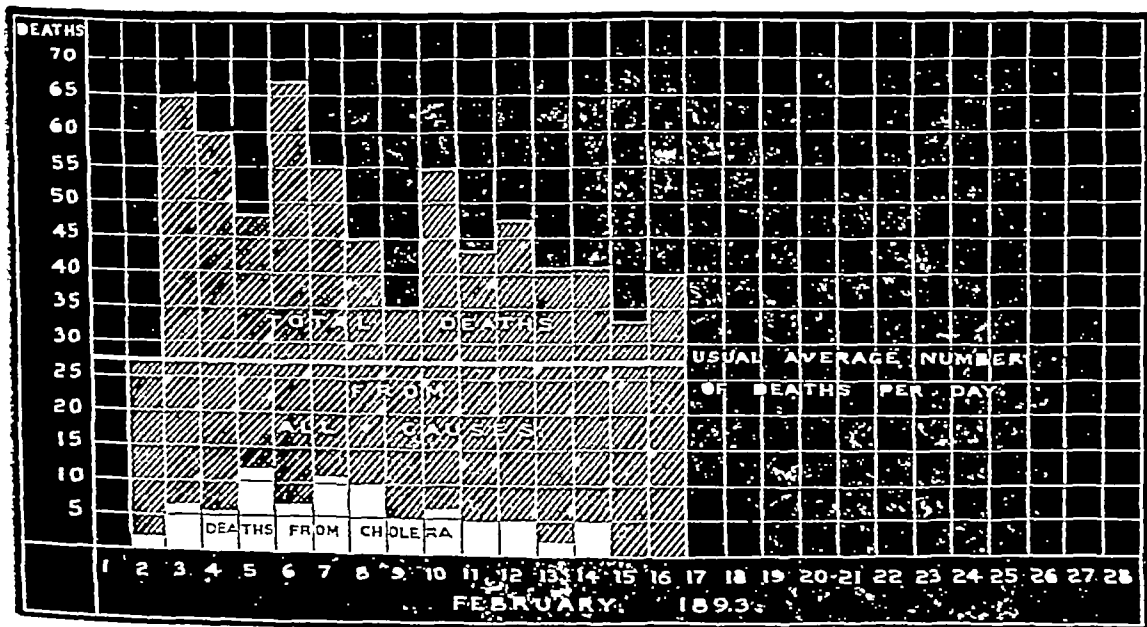
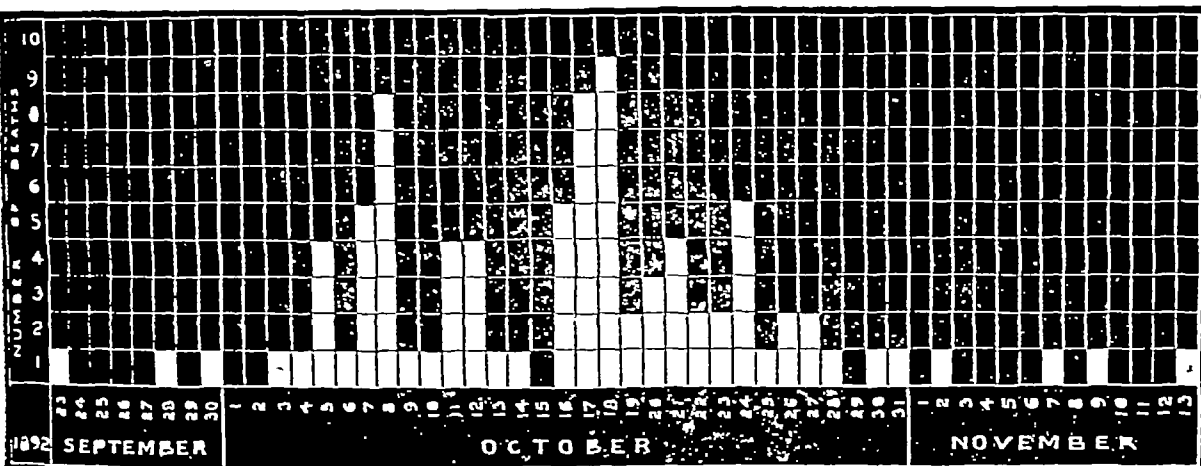
family more than about 3s a month for rent ought to be allowed to live anywhere outside asylums, poor houses, work-houses, or such institutions. Landlords should be compelled to provide wholesome tenements, but tenants should be able to pay a reasonable rent. Till this condition is attained there never will be perfect sanitation.

It is difficult to say how many cases of cholera there were at Portel, as so many persons concealed the fact of their being ill. However 130 cases are known to have occurred and there were 76 deaths. Considering that the population of Portel only numbers 5329 according to the last census, it will be seen that the epidemic was severe. The average

MARSEILLES

The Cholera in October, 1892—The Cholera in February, 1893—Remarkable Contrast between the Two Epidemics

Mystery hangs over the cholera at Marseilles. A great deal of unnecessary word fencing is indulged in that may mislead the casual inquirer, but which, as far as I have been able to judge, tends rather to exaggerate than to mitigate the evil. If anyone speaks of cholera he is authoritatively told at the Municipalité, as at the Préfecture, that there is no cholera epidemic. Then insinuations, sometimes not altogether pleasant, are made that the cholera



number of deaths for the last ten years at Portel was 103 per annum. Dr Armand, the Government delegate, the mayor assured me had made this calculation and it would equal a death rate of 20.2 per 1000 per annum, but the death rate from cholera alone during the recent epidemic amounted to 14.25 per 1000 of the population. The Portel epidemic may therefore be considered as one of the most severe that occurred in France during the course of last year. Doubtless it would have been even more severe but for the fact that energetic disinfection was enforced and that the town is exposed to the purifying and health imparting sea breeze.

has been invented by foreigners anxious to promote the commercial interests of other nations to the detriment of the port of Marseilles. Yet it is now freely admitted that there was cholera at Marseilles last October, but great efforts are made to conceal the fact that there has been cholera at Marseilles during the month of February this year. Because the number of deaths has not been considerable, therefore the existence of an epidemic is denied. Then there is the practice of qualifying deaths as "suspect." There are however a few hygienists at Marseilles who care more for saving human life than for playing with words in the hope that foreign Governments will not take measures against ships.

coming from Marseilles. I was therefore able to obtain the accompanying diagrams. The first represents by squares the number of deaths occurring each day during the months of September, October and November last year. The figures possessed at the Ministry of the Interior in Paris show that there were four deaths in September, eighty two in October and four in November, and there is scarcely any difference between these figures and those of the diagram. Whilst these cases of cholera occurred in October there was a decrease in the general mortality. Most of the victims lived in the lower part of the town, especially in the narrow streets by the old port, which had suffered so much during the great epidemics of 1884 and 1885. The epidemic was spread over a period of fifty to sixty days, and on Oct 1st there was a great storm, which in part flooded the lower portion of the town. This year, on the contrary, the weather has been exceptionally dry. The rain fall for January was only 16 millimetres, or a third of the normal rainfall. In 1892 there fell 52 millimetres of rain in the same month. The epidemic commenced on Feb 2nd and seems to have ceased on Feb 15th. On Feb 21st there had been another death, about which doubts were entertained. In any case, the epidemic of February has proved to be a little more severe than that of October last, for I am informed, on the best authority that there have been 102 deaths. The accompanying diagram does not quite correspond with these figures, but it does correspond with the figures given by the Prefecture to the foreign consulates. In the latter case the distribution by date is different, though the total is the same. From this I may conclude that there have been from Feb 2nd to Feb 22nd 102 deaths from cholera, of which 87 deaths are officially recognised as such. As differing still further from the epidemic of October last, the accompanying diagram shows that the general mortality was much higher than usual. As a rule, there die close upon thirty persons per day in Marseilles but the number of deaths during the first fortnight in February was much greater and this would still be the case even if one were to deduct the deaths from cholera. Finally, the February epidemic was spread over a vast area, principally on the outskirts of the town and on comparatively elevated ground. It seems, therefore, to have been in many important respects very different from the epidemic of October, and both the epidemics of October, 1892, and February, 1893, differ very considerably from the great epidemics of 1884 and 1885. This latter circumstance gives rise to the hope that there will be no serious epidemic this year. Dr Mirrer, who is one of the leading authorities on this question and has very elaborately studied the previous epidemics, urged, when discussing the matter with me, that cholera at Marseilles always begins with a few isolated cases and then suddenly develops, a large number of deaths taking place daily. This was not the case either in October or in February, and therefore he hopes that Marseilles is not at the present time especially susceptible to cholera, otherwise, why should the epidemic have stopped so soon and caused so little damage? It is ardently to be desired that this somewhat sanguine view of the situation may be verified by the course of future events, but the summer is coming and Marseilles is abominably dirty

INTESTINAL PARASITES BELONGING TO THE CLASS NEMATODA

THREE lectures on this subject were delivered at the Royal College of Surgeons on Feb 20th, 22nd and 24th, by Dr H J Campbell, Senior Demonstrator of Biology at Guy's Hospital. He gave a short historic account of the views concerning intestinal parasites, which was followed by a brief description of the general anatomy of the nematodes. A general review of the life histories of the parasitic species was then given. First, those forms which are only occasionally parasitic, being free living animals for the greater part of their lives, were mentioned, after which came a description of those species which pass their larval stages in damp earth or water, but which must gain admittance to the intestine of an animal before they can grow up into sexually mature adults. Next those forms were described which are obliged to pass their larval condition in the bodies of intermediate hosts in order to reach the stage of development which is neces-

sary if they are to grow up into adults in the intestine of their final hosts. Fourthly, mention was made of some species which show an alteration of generations, as a rule, in these cases, the intestinal parasite produces by parthenogenesis young animals which grow up outside the body of the host into sexually mature adults, these, in their turn, give rise to embryos which, after they have been swallowed by their host, develop into another asexual generation. Finally came the species which pass the whole of their lives inside the bodies of their hosts, and which in consequence neither require any intermediate host for their development nor are free living for any portion of their lives, but whose eggs are able to develop into mature adults in the bodies of their hosts, even if they are swallowed immediately after they have been passed.

The second lecture commenced with a description of the *ascaris lumbricoides*, the experiments of Grassi and Lutz, by means of which it was conclusively proved that no intermediate host is necessary for the development of this parasite, being described at some length. It appears, from the results obtained by Lutz, that it is necessary for the eggs to be still covered with their albuminous coatings when swallowed by the host if they are to grow up into adults in his intestine. The symptoms said to have been caused by the presence of *ascarides* in the intestine were mentioned, but it was shown that, although these parasites may undoubtedly in rare cases cause obstruction, yet, as a rule, hardly any or no symptoms are produced by them. Apparently, the most usual vehicle of infection is drinking water. Occasionally, however, food may become contaminated if the hands are soiled with mud or earth containing the eggs. This view is supported by the facts that *ascarides* occur most frequently during rainy seasons, and also that they are most prevalent in persons living on the borders of lakes and in swampy districts. Further, cases have frequently occurred in which direct infection through polluted drinking water has been shown to be exceedingly probable, if not quite certain. The *ascaris lumbricoides* usually inhabits the small intestine of man, but it has, however, been also found in the bile ducts and after perforation of the intestine in the peritoneal cavity &c. The *ascaris mystax* of the cat and dog very much resembles the *ascaris lumbricoides* both in appearance and life history. It is, however, somewhat smaller and, in addition, possesses characteristic wing like appendages to its head. The eggs of both species are exceedingly resistant both to cold and dryness, and can retain their vitality for long periods, being able to develop, when suitable conditions are provided for their growth, even if several years have elapsed since they were laid. That the life history of the *ascaris mystax* is similar to that of the *ascaris lumbricoides* has been proved by Grassi by means of feeding experiments upon dogs. The *ascaris megalocephala* is the largest of the *ascarides*, it has never been found in man, but it is exceedingly common in the horse. Here, again, no intermediate host is necessary and the vehicle of infection seems, in the majority of cases to be drinking water. The *trichocephalus dispar*, or whip worm, which inhabits the cæcum and small intestine of man, is about two inches in length, the males are smaller than the females, and, like those of most parasitic nematodes have bent-up tails which are provided with spicula. This parasite has been credited—though on very insufficient grounds—with being the cause of *beri beri*. There seems no doubt, however, that when present in large numbers it may give rise to intestinal catarrh. The anatomy and life history of the *oxyuris vermicularis*, or thread worm, were next described. Here, again, it has been proved by feeding experiments made in this case by Cobb that no intermediate host is necessary for the development of this worm, the eggs being able to develop into mature adults in the intestine of the host if they are swallowed immediately after they have been laid. The natural habitat of this parasite is the cæcum or the lower part of the ileum.

The third lecture was devoted to the consideration of those species which produce grave diseases in their hosts. The most important of these the *necylostomum duodenale*, was first described as to its anatomy and life history. Although no intermediate host is necessary, the eggs are unable to develop into adults in the intestine if they are swallowed immediately after they have been laid. It is necessary for them to first develop in muddy water or upon damp earth into rhabditiform larvae, which, after moulting two or three times at last reach a stage in which development is no longer possible until they have entered the intestine of man. More

over the eggs die if the temperature of the water or earth is too low, and this accounts for the fact that, although occasional cases of ancylostomiasis have been observed in Northern Europe, the disease has never been endemic, except in warm climates. The symptoms of the disease were next entered into and a historical account given of it. The connexion of the parasite with the disease, which had been variously described as "mal d'estomac," "cachexie aqueuse," "tropical or Egyptian chlorosis," "mal de cœur" &c., was first discovered by Griesinger in 1854. Numerous observers have recorded the frequency with which the ancylostomum duodenale has been found in cases of beri beri, and, although it seems certain that the parasite is not the cause of the disease, yet there is very little doubt but that it plays a very considerable part in producing the anemia so frequently present. The *doctimus trigenocephalus* of the dog, the *strongylus contortus* of the sheep and the *strongylus convolutus* of the ox all produce in their respective hosts diseases very similar in the symptoms and results to that produced in man by the ancylostomum duodenale. The life history of the *strongylus armatus* of the horse is peculiar in some respects. The adult condition is passed in the large intestine of the host, the eggs being evacuated with the faeces. As with the ancylostomum duodenale, the larval stage is passed in water or in damp earth, after which development takes place, not in the intestine of their host, but in the mesenteric arteries. Apparently the larvæ, immediately on reaching the intestine, commence to bore through its walls and to make their way into the mesenteric arteries, where they give rise to aneurysmal dilatations, in which the larvæ remain for some little time. It seems, however, that they never grow up into adults in these vessels, but make their way by some means or other into the large intestine of their host, where they become sexually mature. The *heterakis maculosa* is a parasite which inhabits the intestine of the pigeon, producing frequently a fatal disease in its host. Unterberger has shown that the eggs of this nematode require to be kept for about seventeen days under suitable conditions outside the body of the host before they reach the stage at which development in his intestine is possible. If they are ingested earlier they produce no effect. If, however, the necessary interval has been allowed to elapse ova commence to appear in the faeces about three weeks after infection has taken place. The experiments made by Grassi on the *spiroptera sanguinolenta*, which inhabits the alimentary canal of the dog were next described. These experiments show that for this parasite an intermediate host is necessary, which in this case is the Eastern cockroach. Apparently dogs become infected by eating this insect. The life history of the *rhabdomena strongyloides* (*anguillula intestinalis anguillula stercoralis*) is a peculiar one. The *anguillula intestinalis* lives in the intestine of man and gives rise, probably by parthenogenesis, to ova, which develop into sexual animals. These were for a long time considered to form a separate species, being known as the "*anguillula stercoralis*," but it has been shown that if the embryos produced by them are swallowed by man they grow up into the asexual intestinal form. Thus here we have an alternation of generations—sexual and asexual. The evidence for and against the view that Cochlin China diarrhoea is caused by the presence of this parasite was entered into and the conclusion arrived at was that, although this worm may undoubtedly give rise to enteritis, yet it cannot be considered to have any causal relation to the disease first mentioned. The lectures were closed by a summary of the anatomy and life history of the trichina spiralis and the effects produced by it upon its host.

THE ARMY ESTIMATES FOR 1893-94

THE Army Estimates form a voluminous and somewhat intricate, but nevertheless clear and admirably arranged Parliamentary paper embodying statements of the variations of the numbers of Her Majesty's British forces, explanations of the increases and decreases in the estimates the amounts allocated for the colonies and Egypt, and the amounts provided for each arm of the service and for various miscellaneous establishments. The amount for total effective and non-effective services is £17,431,293, and the net increase for the year is set down at £171,600, but, as will be seen, the increase has not been caused by the medical services and establishments, for, according to the preliminary statement

explanatory of the differences in the amounts proposed for 1893-94 and the amounts voted in 1892-93, Vote 4 (Medical Establishment) shows a decrease of £1900 for this year. This decrease is attributable to the pay of the medical staff having been overestimated in past years, insufficient allowance having been made for casualties. The estimates of the sum required to defray the expense of the pay &c. of the medical establishment and cost of medicines is put down at £288,200 and, amongst the subheads under which this vote is accounted for, we may mention the pay of the medical staff, which is estimated at £225,800 for 1893-94, as against £228,000 in 1892-93, showing a decrease of £2200. The estimated pay of militia surgeons and civilian medical practitioners &c. amounts to £9950, showing an increase of £400 on that of last year. The cost of medicines &c. remains the same—viz., £18,000. The total strength of the medical staff, including that on the Indian Establishment, amounts to 954, from which 335 have to be deducted for India. The number of men on the regimental establishments of the army and auxiliary forces and of the reserves is estimated at a total of 712,507. The number of men of British regiments of all ranks serving in India is 72,858. A statement showing the rates of pay and the allotment of the staff &c. to the various districts and stations at home and abroad is given in Appendix No. 8, page 168 *et seq.*; and the total emoluments of officers serving at home are shown in Appendix No. 19 p. 217. Vote 11, subhead 1, for the staff of the Army Medical School, Netley, amounts to £7023, which is a slight decrease on the preceding year. Vote 13, Subhead A, provides for the Director-General and medical officers at headquarters at an estimated cost of £4850. In our examination of these estimates, we have not so far been able to ascertain any evidence of the War Minister's intentions in regard to the recommendations made in the report of Lord Wantage's Committee.

ALABASTER AND OTHERS v THE MEDICAL BATTERY COMPANY

THIS was an action brought by the proprietors of the *Electrical Review* to recover damages for a libel contained in a circular issued by the defendants. The circular was issued in the following circumstances. The *Electrical Review* addressed a series of articles to the subject of the *Harness* "electro-pathic belt," in which the worthlessness of these contrivances for curative purposes was exposed, and one article in particular commented upon an action brought by the defendant company in the Bloomsbury County Court for the recovery of the price of one of these belts. In the course of that article the following observations occurred—"It is quite impossible for the belt to generate any current as worn upon the body for the external circuit was not completed by the connecting up of the zinc and copper poles, nor were any means indicated to the defendant of doing so for himself. Assume that one of these belts is properly connected up and that the exudations of the body act upon the metals so as to produce, by chemical action, an insignificant amount of electrical energy does the current so produced pass through the body, and is it of any use medically? We reply emphatically 'No.' If the much-to-be-pitied persons of both sexes who so readily fall into the snare set by the president of the British Association of Medical Electricians and of the Medical Battery Company would only reason with themselves a few minutes reflection ought to convince the most foolish that the idea of a poor debilitated body generating the electricity for alleviating its own sufferings is most preposterous. But what words can be found sufficiently strong to condemn the practice carried on in the Oxford street mansion in the treatment of rupture? That it should be possible in these days of enlightenment and in the midst of the largest city in the world for 16,900 cases of a serious malady to have been treated by a man having such qualifications for the task as the consulting officer of the Medical Battery Company proved himself in the witness box to possess is beyond the comprehension of any reasonable being and if ever there was a matter demanding the immediate attention of the Public Prosecutor the revelations made at the Bloomsbury County Court point to it. If the treatment by an unqualified man of incurable disorders which require careful and skilful medical attention is not

actionable at law, the sooner some Bill is passed to make it so the better for suffering humanity. We trust that the report of this disgraceful case may be disseminated far and wide, for it will do much to enlighten the public as to the real status of Mr O B Harness. No wonder that he can spend yearly on advertisements a sum which most people would consider a princely fortune if 16,900 cases are treated at five guineas a time—probably more in numerous cases—in between six and seven years."

Upon the publication of this article the solicitors of the Medical Battery Company issued the circular complained of in the present action to some 500 newsagents of the metropolis, warning them that the *Electrical Review* and *Science* *Siftings* contained "malicious libels" upon the defendant company, and that if these or any future publications containing defamatory articles or paragraphs were sold or circulated by the persons addressed, the company would hold them responsible. The natural effect of this circular was to deter the newsagents from selling the papers in question. Evidence upon this head having been given, the plaintiffs proposed to call evidence in justification of the articles which they had written. To this evidence objection was taken in behalf of the defendants that the merits of the Harness belts did not come into question in the present action, the plea upon which they relied being that the circular was issued *bona fide* and in self defence and therefore upon a privileged occasion. The Lord Chief Justice, however, held that the proposed evidence was material upon the issue as to the defendants' *bona fides* in issuing the circular. Thereupon Sir Edward Clarke, in behalf of the defendants, elected to admit that the circular was a libel and to leave the question of damages to the jury, stating that his clients were not prepared in this action to go into the question of the merits of the belt. The matter was accordingly left to the jury upon that footing, and they awarded to the plaintiffs damages to the amount of £1000. Judgment for that amount and for costs was given and the Lord Chief Justice refused a stay of execution.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT

REPORTS OF MEDICAL OFFICERS OF HEALTH

Isolation Accommodation and Notification in the County of Surrey—Dr Seaton has made a most valuable report to the Sanitary Committee of the County Council upon these subjects. Referring first to the question of notification, we are told that all the sanitary authorities in the county, with one exception, have now adopted the Notification Act, the authority which still persistently refuses to adopt it being the Godstone rural. Both Dr Seaton and Dr Oldman have done their best to persuade the authority to complete the county list, but, so far, in vain. Amongst the Surrey united rural districts Dorking stands alone in being without any hospital provision, and it is of some interest to note that in this district the prevalence of scarlet fever has been much greater than in the two adjoining ones of Guildford and Reigate. It is also to be noted that the proportion of persons attacked to houses invaded was likewise greater in the Dorking district. These statements presumably refer to the year 1891. Negotiations have taken place between the sanitary authorities comprised within the Epsom union with a view to united action in providing a fever hospital. The Epsom urban authority have, however, refused to join, and are proceeding to erect a hospital of their own. At the present time about one-third of the population of the county is said to be provided with isolation accommodation, a fact which shows considerable advance on the condition of things existing eighteen months ago. Dr Seaton is evidently an advocate of further powers being conferred upon the county council as regards hospital provision. Referring to the character of isolation accommodation, he remarks "I cannot too strongly comment upon the undesirability of establishing even as temporary accommodation, hospital provision likely to bring discredit upon the system of notification and isolation of infectious diseases." We are in entire accord with these sentiments, and naturally also agree with Dr Seaton when he urges that persons admitted into a fever hospital suffering from one complaint should not be exposed to the risk of contracting another. Although it is possible,

in a very large degree, to prevent this occurrence, we fear that in some cases at least, whatever precautions be adopted, some risk must be run—as, for instance, when patients are admitted into the wards of a fever hospital—of incubating some other disease in addition to the one from which they are suffering. This, we are afraid, must always be one of the necessary drawbacks of a fever hospital, or, in fact, of any hospital system whatever. No justification, however, can be found for a sanitary authority which allows small pox to be treated in the same hospital with other infectious diseases.

Chelmsford Rural District—After dealing with the population, area and geographical and physical conditions of the district, Dr Thresh gives qualitative analyses of samples of water taken from various villages, he then discusses the questions of sewerage, excrement and refuse disposal &c. The same difficulty in connexion with the housing of the working classes seems to obtain here as elsewhere, and Dr Thresh states that before advising his authority to take advantage of the powers conferred upon them by Part III of the Housing of the Working Classes Act he is watching with interest the experiment in that direction at Ixworth, where a number of cottages are about to be erected by the Thingoe rural sanitary authority. Whilst upon the subject of burial grounds Dr Thresh seems to favour the view that the county councils should be empowered to erect crematoria at convenient spots in their counties. In drawing up a set of by laws for the district, we are glad to see, advantage has been taken of the powers conferred by the Public Health Acts Amendment Act of 1890. During the year 1892 several minor improvements have been effected, and it has been decided to provide isolation accommodation for the district, a system of sewers for one village and a public water supply for several others. We agree with Dr Thresh that it is much to be regretted that the Chelmsford urban sanitary authority could not see their way to join with the rural authority in the erection of a fever hospital. The past year has been fruitful in epidemics, and influenza, measles, diphtheria, mumps, German measles and scarlet fever have each claimed their victims in the district. The zymotic death rate was 1.83. We notice with regard to German measles that here, as in other places, there seems to have been some difference of opinion as to the nature of the complaint. No less than 97 cases of diphtheria, concerning which a special report has been issued, occurred during the year, and they yielded a case mortality of 11 per cent. Last year, with fewer cases, the mortality was 20 per cent. Several cases of diphtheria seem to have been closely associated with attacks of scarlet fever. There can, as Dr Thresh states, be little doubt that the condition of throat produced both by scarlet fever and measles forms a very suitable nidus for the activity of the bacillus of diphtheria. The general death rate in the district was 18.2 as against 15.4, the mean of the preceding twelve years. The excess has fallen entirely upon the aged and is no doubt due in large part to the number of deaths (47) which were attributed to the effects of influenza. As Dr Thresh remarks, it is to be hoped that the virulence of this disease is not capable of further intensification. This report is one of much interest and we hope it will be widely read.

VITAL STATISTICS

HEALTH OF ENGLISH TOWNS

In thirty three of the largest English towns 6783 births and 4125 deaths were registered during the week ending March 4th. The annual rate of mortality in these towns, which had been 19.2 and 19.7 per 1000 in the preceding two weeks, further rose to 20.8 last week. In London the rate was 20.8 per 1000, and almost corresponded with the mean rate in the thirty two provincial towns, which was 20.9 per 1000. The lowest rates in these towns were 12.7 in Leicester, 15.3 in Croydon, 15.4 in Nottingham and 16.3 in West Ham, the highest rates were 24.7 in Leeds, 24.9 in Bolton, 25.6 in Manchester, 27.0 in Plymouth and 29.5 in Norwich. The 4125 deaths included 398 which resulted from the principal zymotic diseases, against 368 and 386 in the preceding two weeks, of these, 102 were referred to whooping cough, 98 to measles, 61 to diphtheria, 49 to diarrhoea, 44 to scarlet fever, 32 to "fever" (principally enteric) and 12 to small pox. No fatal case of any of these diseases occurred last week in Swansea or in Wolverhampton, in the other towns they caused the lowest death rates in Leicester, West Ham, Gateshead and Oldham, and the highest rates in Manchester, Halifax, Plymouth,

Cardiff and Bolton. The greatest mortality from measles occurred in Portsmouth, Derby, Plymouth, Preston, Leeds and Bolton, from whooping cough in Cardiff, Halifax, Burnley, Brighton, Nottingham, Norwich and Salford. The mortality from scarlet fever and from "fever" showed no marked excess in any of the large towns. The 61 deaths from diphtheria included 37 in London, 4 in Manchester, 3 in Liverpool and 3 in Cardiff. Five fatal cases of small pox were registered in London, 2 in Manchester, and 1 each in Liverpool, Nottingham, Salford, Halifax and Hull, 183 cases of this disease were under treatment in the Metropolitan Asylum Hospitals and 15 in the Highgate Small pox Hospital on Saturday last. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2210, against 2513, 2402, and 2293 on the preceding three Saturdays, 203 new cases were admitted during the week, against 217 and 178 in the previous two weeks. The deaths referred to diseases of the respiratory organs in London, which had been 350 and 427 in the preceding two weeks, declined again to 385 last week, and were 111 below the corrected average. The causes of 87, or 2.1 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Croydon, Cardiff, Leicester, Sunderland, and in five other smaller towns, the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, Salford and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had declined in the preceding three weeks from 24.2 to 20.4 per 1000 rose again to 23.2 during the week ending March 4th, and exceeded by 2.4 per 1000 the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 15.7 in Aberdeen and 16.8 in Leith to 29.2 in Perth and 33.8 in Dundee. The 654 deaths in these towns included 53 which were referred to measles, 15 to whooping cough, 9 to diphtheria, 8 to diarrhoea, 3 to scarlet fever, 2 to "fever" and 1 to small pox. In all, 91 deaths resulted from these principal zymotic diseases, against 109 and 89 in the preceding two weeks. These 91 deaths were equal to an annual rate of 3.2 per 1000, which exceeded by 1.2 the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of measles, which had been 57 and 42 in the preceding two weeks, rose again to 53 last week, of which 24 occurred in Dundee, 15 in Glasgow and 6 in Paisley. The 15 deaths referred to whooping cough showed a further decline from those recorded in recent weeks, and included 13 in Glasgow and 2 in Paisley. The fatal cases of diphtheria, which had been 8 and 10 in the preceding two weeks, were 9 last week, of which 7 occurred in Glasgow. The deaths from scarlet fever, which had been 8 and 10 in the previous two weeks declined to 3 last week, and included 2 in Glasgow, where the fatal case of small pox was also recorded. The deaths referred to diseases of the respiratory organs in these towns, which had declined from 182 to 135 in the preceding three weeks, rose again last week to 171, and exceeded by 16 the number in the corresponding week of last year. The causes of 62, or more than 9 per cent., of the deaths in the eight towns last week were not certified.

HEALTH OF DUBLIN

The death rate in Dublin, which had been 29.7 and 27.4 per 1000 in the preceding two weeks, rose again to 27.7 during the week ending March 4th. During the first nine weeks of the current quarter the death rate in the city averaged 28.9 per 1000 against 22.9 in London and 22.2 in Edinburgh. The 186 deaths in Dublin during the week under notice showed an increase of 2 upon the number in the preceding week, and included 6 which were referred to "fever," 5 to whooping cough, 2 to diarrhoea, and not one either to small pox, measles, scarlet fever or diphtheria. In all 13 deaths resulted from these principal zymotic diseases equal to an annual rate of 1.9 per 1000 the zymotic death-rate during the same period being 1.8 in London and 1.0 in Edinburgh. The deaths referred to different forms of "fever" which had been 7 and 2 in the preceding two weeks rose again to 6 last week. The fatal cases of whooping cough which had been 1 and 2 in the preceding two weeks further rose to 5

last week—a higher number than in any week since June, 1892. The 186 deaths registered in Dublin last week included 35 of infants under one year of age and 45 of persons aged upwards of sixty years, the deaths of infants showed a slight further increase upon recent weekly numbers, whilst those of elderly persons showed a further decline. Six inquest cases and 5 deaths from violence were registered, and 67, or more than a third, of the deaths occurred in public institutions. The causes of 21, or more than 11 per cent., of the deaths in the city last week were not certified.

THE SERVICES

MOVEMENTS IN THE MEDICAL STAFF

SURGEON CAPTAIN WM WILFRID WEBB, M.B., Bengal Army, T.H.P., took over charge of his appointment as Secretary to the Army Medical School, Netley, and curator of the museum on March 1st. Surgeon Captain A. E. Morris is posted to the Medical Division of the Royal Victoria Hospital, Netley, on return from leave of absence. Brigade Surgeon Lieutenant-Colonel W. J. Martin, A.M.S., having embarked at Portsmouth for India on the 2nd inst., is struck off the strength accordingly. Brigade Surgeon Lieutenant Colonel Thomas O'Dwyer has been appointed Principal Medical Officer of the South Eastern District. Brigade Surgeon Lieutenant-Colonel Steele has been appointed to the Charge of the Station Hospital, Western Heights, Dover. The following officers have embarked in the *Malabar* for India—Surgeon Major Myles and Surgeon Captains Stalkart and Burchrell. Surgeon-Major Robbins has been appointed to Pembroke Dock. Surgeon Captain Hunter has arrived at Hong Kong and Surgeon Captain Hickman Morgan at Sierra Leone.

ARMY MEDICAL STAFF

Surgeon Colonel Thomas Rudd, M.D., to be Surgeon Major-General, vice S. A. Lithgow, M.D., C.B., D.S.O. retired, Brigade Surgeon Lieutenant-Colonel Thomas F. O'Dwyer, M.D., to be Surgeon Colonel vice T. Rudd, M.D., and Surgeon Lieutenant-Colonel Thomas O'Reilly to be Brigade-Surgeon Lieutenant-Colonel, vice T. F. O'Dwyer, M.D. (all dated Feb 6th, 1893).

INDIA AND THE INDIAN MEDICAL SERVICE.

The following admissions to the Indian Medical Service have been approved to be Surgeon Lieutenants (dated Jan 30th, 1893)—Bengal: Charles Milne, Vivian Godfrey, Drake Brockman, William Young, John Joseph Bourke, George Yeates Cobb Hunter, Bernard Robert Chatterton, Cedric Barkley Prall, Chas. Edward Williams, John Norman MacLeod, Walter Holland Ogilvie Thomas Alfred Ollivant Langston, Richard Heard, Edgar Rowe Parry, Walter Hood Orr, and Paxton St. Clair More. Madras: George Bidie and John Plowden Morton. Surgeon Captain G. A. T. Bray, doing duty, Belgaum and Bangalore Districts, is posted to do duty, Rangoon District. Surgeon Lieutenant-Colonel W. F. Murray is appointed to act as Civil Surgeon of Shahabad. Surgeon-Major Owen, C.I.E., C.M.G., of the Commander in Chief's Staff, will on the departure of Lord Roberts be appointed Chief Medical Officer of the Patiala State. Surgeon Captain J. Murry, Professor of Pathology and Materia Medica, Lahore Medical College, has obtained furlough to Europe on medical certificate for nine months. Surgeon Major A. W. F. Street, D.S.O., is allowed furlough for two years from April 18th, 1893. Surgeon Captain W. H. Burke, M.B., Assistant to the Civil Surgeon, Poona, is allowed privilege leave of absence for three months from March 2nd, 1893. Surgeon Major H. P. Jervis, I.M.S., has been granted extension of leave for six months. Surgeon Lieutenant-Colonel J. D. Gunning, A.M.S., has been granted leave for six months. Surgeon Captains F. H. Treherne, A.M.S., G. H. Frost, I.M.S., and Surgeon Lieutenant H. M. Earl, I.M.S., have passed the lower standard examination in Hindustani. Surgeon Colonel Carter, who, as Professor in the Lahore Medical College has done some excellent work in connexion with Indian native poisons, will retire from the service in April next.

NAVAL MEDICAL SERVICE.

The following appointments are announced—Staff Surgeons J. Acheson, M.D., to the *Brisk* on promotion; H. S. R. Sparrow to the *Rapid* on promotion, and A. Kidd to the *Cyclone* on promotion (all dated Feb 26th, 1893), J. H. Beattie to the *Royalist* (dated March 3rd, 1893). Surgeons

A. J. Pickethorn to the *Orlando* and E. A. Penfold to the *Goldfinch* (both dated March 3rd, 1893), J. R. McDonnell to the *Neptune* (dated March 1st, 1893), R. T. Bowie to the Chatham Hospital and G. G. Bishop to the *Iron Duke* (both dated March 3rd, 1893) Surgeon and Agent A. D. Vardon, at Pennant and Gardenstown (dated March 1st, 1893)

VOLUNTEER CORPS

Light Horse 1st Forfarshire Surgeon Captain T. F. Dewar, M.B., from the 1st Devonshire Volunteer Artillery (Western Division, Royal Artillery), to be Surgeon Captain (dated March 4th, 1893) — *Artillery* 1st Lanarkshire The undermentioned Surgeon Majors to be Surgeon Lieutenant-Colonels — G. R. Mather, M.D. and J. Provan, M.D. (both dated March 4th, 1893), Archibald Kerr Chalmers, M.D., to be Surgeon Lieutenant (dated March 4th, 1893) — *Rifle* 2nd (Prince of Wales) Volunteer Battalion the Devonshire Regiment Surgeon Lieutenant E. G. Dutton resigns his commission (dated March 4th, 1893) — 2nd (Berwickshire) Volunteer Battalion, the King's Own Scottish Borderers Surgeon Lieutenant S. Macvie, M.B., to be Surgeon Captain (dated March 4th, 1893) — 3rd (Dumfries) Volunteer Battalion, the King's Own Scottish Borderers Surgeon Captain A. D. MacDonald, M.D., to be Surgeon Major, and Surgeon Lieutenant J. MacLachlan, M.B., to be Surgeon-Captain (both dated March 4th, 1893) — 4th Volunteer Battalion, the Cameronians (Scottish Rifles) Surgeon Captain J. Macfie, M.D., to be Surgeon Major (dated March 4th, 1893) 2nd Volunteer Battalion, the South Staffordshire Regiment Thomas Martland, Gent., to be Surgeon Lieutenant (dated March 4th, 1893)

VOLUNTEER MEDICAL STAFF CORPS — The Norwich Company Frederick Preston, Gent., to be Surgeon Lieutenant (dated March 4th, 1893)

THE FEVER AT PESHAWUR.

We alluded not long ago to the serious prevalence of fever in the Peshawur garrison and to the removal of the Royal Welsh Fusiliers to Nowshera in consequence of its relief by the 3rd Battalion of the Rifle Brigade. We learn that the Royal Welsh Regiment has greatly improved in health, but that there have been many cases of fever among the men of the Rifle Brigade since their arrival at Peshawur.

REINSTATEMENT OF SURGEON MAJOR KING

According to an announcement in the *Fort St. George Gazette*, we are extremely glad to learn that the services of Surgeon Major King, Indian Medical Service, are placed at the disposal of the Public Department. This means that the officer in question returns to civil employment, and that the justice and merits of his case have been established and recognised by the Indian Government.

ARMY RECRUITING

The subject of recruiting—apart from its national importance, for the maintenance and efficiency of the army concern everyone—has a special interest for the Army Medical Service. The report for 1892 has now been published and the results are generally satisfactory, as may be concluded from the fact that in January 1892, the army was nearly 5000 below its proper strength, whereas on Jan 1st, 1893, it was over 1300 above it. The blots are the number of special enlistments—that is the number of recruits accepted by special authority who are not up to the required standards of age or physical development—and the increased number of deserters, the bulk of whom are under one year's service. Recruiting has of late been carried on under more favourable circumstances. The facilities for discharged soldiers obtaining employment in civil life have been largely increased, the system of advertising has been developed, the soldier's comfort and position have been improved in every way, and these facts are beginning to be known. The system of dieting and cooking that has been recently introduced into the army has given rise to more contentment in its ranks and has relieved the State of a financial difficulty. We concur with the Inspector General of recruiting in thinking that the adoption of the principle laid down by the Imperial Government of Germany in 1885 would have an excellent effect—viz., that every soldier of twelve years' service discharged with a certificate of good service has a prescriptive right to probationary employment in a large number of positions under Government, his permanent appointment to which depends upon himself and on the qualities and character he exhibits as a probationer.

EXCHANGES ON THE INDIAN ROSTER.

It is announced in the Indian papers that applications from officers of the Army Medical Staff for permission to

effect an exchange on the Indian roster are to be submitted to the Principal Medical Officer of Her Majesty's Forces for the orders of the Commander in Chief in India, and applications to retire are to be forwarded through the same channel to the Military Secretary to the Commander in Chief.

OFFICIATING AND SUBSTANTIVE MILITARY MEDICAL APPOINTMENTS IN INDIA

When a surgeon colonel is appointed to officiate as a surgeon major general, or a brigade surgeon lieutenant colonel to officiate in the administrative medical grades of the Medical Service, he will receive the temporary rank of surgeon major general or surgeon colonel, as the case may be, and any time an officer may have officiated in the administrative grades of the Medical Service on full consolidated salary, should he be confirmed without reverting to his substantive rank, shall reckon as qualifying service for additional pension.

THE ARMY AND THE GOTHENBURG SYSTEM.

The Bishop of Chester, in introducing his Bill into the House of Lords on the retail sale of intoxicating liquors, made great use of the practice pursued in the army in illustration and support of his measure. The Gothenburg principle had been applied practically to the army in the canteen system and by the development of regimental and garrison institutes, with their many social and moral advantages to the soldier. The Bishop quoted General Goodenough to the effect that the army had been, in fact, without knowing it, for nearly thirty years following what is known to the public as the Gothenburg system, under which the profits from the sale of liquors are employed for the good of the community in promoting objects of approved utility for the men at large. He also quoted Sir George Chesney's testimony as to the growth and development of essentially the same system in India under Lord Roberts into what is known as the Soldiers' Institute or the Regimental Institute of the present day. There can be no doubt that these institutes have been productive of much good in the army serving in India, in promoting the cause of temperance and health and the diminution of crime. These institutes are, in fact, comfortable, well managed social clubs, where the soldier may obtain everything he requires at a reasonable price and of a wholesome unadulterated quality.

Correspondence.

"Andi alteram partem."

THE SIGNIFICANCE OF ALBUMINURIA A TYPICAL CASE

To the Editors of THE LANCET

SIRS—Even whilst reading the leading article in THE LANCET of last week under the above title I have been dealing with a case proposed for insurance in a leading society, which seems to me to bring the whole matter to a bearing of the most practical kind, and the details of which I should like to submit as briefly and impersonally as possible. Is there such a thing as "physiological albuminuria?" If there be, then it occurs to me that the following must be a case of the kind.

X—, aged twenty six years, a native of the Highlands, and preserving much of the appearance of such, applied for insurance on Feb 3rd, 1892, and was examined and reported on next day. It was ascertained that he had scarlet fever when nine years of age, and again a sore throat of some kind when seventeen or eighteen, but neither of these illnesses appeared to have left any deleterious consequences whatever, and his health otherwise was stated to have been good throughout. Examination in detail corroborated this impression in every particular but one. The heart, the pulse the lungs and air passages, the abdominal organs generally, revealed no trace of disease to physical diagnosis or by symptoms. There were no venereal antecedents. His habits were apparently unexceptionable—"glass of claret only occasionally"—for the most part a practical abstainer. He was a slender, dark complexioned subject, of perfectly healthy appearance, height 5 ft. 11 in., weight 10 st. 5 lb., girth of chest 31 in to 33½ in., in expiration and inspiration respectively. The family history was unexceptionable as regards the parents and grandparents, unless it be that the paternal grandfather died of cancer at fifty six. He is an only child. The urine at this date (Feb. 4th, 1892) presented the follow-

characters sp. gr. 1033 normal appearance to the eye, but a distinct trace of albumen, both to heat and microscopically (urine passed at 2 P.M.). My report was as follows: "I think this case must be postponed, so far, at least, as to any of the urine in detail as to the albuminuria. Apart from this I see nothing in the case to render the life insuranceable."

A second sample of urine was obtained on Feb. 12th which had exactly the same characters sp. gr. 1024. I then asked the inquiry in the hands of his medical attendant, and the general instruction that this was a question to be decided, not in the interests of the insurance office but of the proposer himself. The result was that he returned on Feb. 27th, 1892, with a verbal report that his medical attendant had found the urine to contain a trace of albumen on several occasions after I had notified the fact to him, but on other occasions had found it free—no exact statements as to the occasions or as to the cyclic character of the albuminuria. On this I reported further as follows: "This life is in every respect unexceptionable, if we can take it as a rule to be followed that a very small trace of albumen in the urine, other circumstances being favourable, is not to be a bar to insurance. I am not personally quite of that opinion though I admit circumstances under which accidental and occasional impregnations of serum albumen may not seriously damage a life from the insurance point of view. How far this is such a case will appear from the following summary. On Feb. 4th and again on the 12th I found the trace above mentioned in the urine of this gentleman. The same is the case to-day. Urine passed at half past three normal to appearance in all respects, but with quite unequivocal trace of albumen by heat with acetic acid and by Roberts's solution of magnesium sulphate with a microscop employed by the contact method." I then gave the medical attendant's verbal report as above, which he afterwards (Oct. 10th) reduced to writing as follows: "X— called me with a sample of his urine weekly during the months of May, June and July to examine for albumen. In every sample I was able by the ordinary tests to detect a very small amount. I kept him under treatment for that, and the quantity of albumen remained much the same. During the last two months I had several opportunities of examining his urine and found the quantity distinctly less, particularly so in the last two samples where I had a difficulty in detecting even the slightest trace."

At a quite recent date in the end of February, 1893, this proposer called once more at the office and passed a sample of urine, which did not differ in any essential particular from the preceding as examined by me. He brought the following note from his medical attendant: "X— has been supplying me with samples of his urine regularly every week or ten days since the date of last report. I have made a careful examination in every instance—microscopically and with the other tests for albumen—with the result that I am perfectly satisfied there is no kidney disease in his case. In several of the samples sent in I could not detect any albumen at all and the quantity, when it could be traced, was so insignificant that I consider it a waste of time to prolong the examination. Still, there the albumen remains, according to my examination in February 1893, exactly as it was in February 1892. I have already said, in public, at Birmingham and elsewhere in discussions on the subject that I cannot but regard the presence of serum albumen (reacting to heat and nitric acid) to this small extent and with this degree of persistency as a danger signal. If this statement of this case is disputed on anything like reasonable grounds by those who advocate a 'physiological albuminuria,' I may have something more to say on the subject. Meanwhile I do not wish it to be supposed that I think it follows from the expression used above that this man has Bright's disease, or that he is very likely to die soon. A danger signal may be a danger rather than a danger. Nay a danger signal may be disregarded and yet no train be wrecked. But still, there it is and from the insurance point of view I think it ought not to be disregarded."

I am, Sirs, yours faithfully

Glasgow March 7th, 1893. W. T. GAIRDNER, M.D.

PROGNOSIS IN ALBUMINURIA

To the Editors of THE LANCET

SIRS—Your excellent advice that the time has arrived for a thorough re-investigation of the prognosis of albuminuria will be shared by many men. I think that most help will be obtained

from men who have kept private records of their cases for years rather than from hospital or even insurance records. If some method could be devised for collecting and analysing these notes an invaluable stock of renal knowledge would be available. The prognosis of heart disease has received more attention than that of albuminuria, and it will be in the recollection of many that the former at the instigation of the Collective Investigation Committee, was ably introduced by Sir Andrew Clark and fully discussed at the annual meeting of the British Medical Association in Brighton in 1886. One starts in practice with a horror that every case of albuminuria is going to be fatal. After having scared a number of people needlessly one gradually settles down to a more hopeful view of the presence of albuminous urine, which is comforting to the patient and beneficial to the doctor. At present it is impossible to say how many cases of early albuminuria develop Bright's disease and how many recover, but there is a point which must have struck several men much engaged in private practice—namely, the small number of deaths that occur from Bright's disease compared with the large number of cases of albuminuria met with. This appears to support the view, at any rate indirectly, that a good number of people recover. Some years ago I wrote to THE LANCET in reference to the "loading" of albuminuric cases, either in respect to the adding of years or of money. A further method seems to be that in which no extra premium is charged, but if the assured die previously to the age to which, as a first class life he might be expected to live, an equivalent deduction should be made from the amount assured, the deduction decreasing every year the assured lives, and if the assured should live as long as a first-class life is expected to live, the debt would be finally extinguished, and the amount of the original assurance would be paid in full at his death.

I am, Sirs, your obedient servant,

Folkestone, March 7th, 1893.

W. J. TYSON

INCIDENTS IN CHLOROFORMISATION

To the Editors of THE LANCET.

SIRS—On Sunday, Feb. 19th, I performed circumcision on a boy of eleven years who had suffered for years from nocturnal incontinence. Dr Thorpe administered chloroform on a napkin. The boy was very frightened previously to the operation, but he took the anæsthetic without struggling and was speedily brought under. I had completed the operation, save the tying of the last stitch when my attention was drawn to the patient's breathing, the respiration was very shallow, and as I looked it ceased. The nurse, an experienced woman, immediately exclaimed, "Oh, he is dead!" Dr Thorpe quickly removed the boy's shirt which was his only article of clothing except his stockings and I seized the ankles drew them over my shoulders and, thus suspended carried him about as well as the limited dimensions of the room permitted. After some minutes of this I placed him on the bed and we performed artificial respiration drawing out his tongue at the same time. In about ten minutes we were rewarded by a faint gasp. The chest walls were very thin and the heart was noticed to be feebly beating though no pulse was felt. By continuing the artificial respiration the breathing improved, and the abdomen rose and fell with each respiration. The breathing however again died away, the abdominal wall was flat and perfectly still. Dr Thorpe then suspended him as before and carried him through the room for from five to ten minutes. I observed the face become congested, and once more we resumed artificial respiration, to which he again responded after what seemed an age, but again we were disappointed as respiration once more ceased. Four times in all was he suspended, the third time he vomited some unmanicured and undigested orange which was with difficulty removed from his throat. Finally, I left him breathing comfortably after three-quarters of an hour's exertion. From the commencement of the anæsthetic until the collapse was about twelve minutes and Dr Thorpe informed me the quantity of chloroform used was two drachms. The boy is now well.

I am, Sirs, yours truly

DONALD C. MARTIN, A.M., M.D.

Stourport March 7th 1893.

THE VACCINATION PROBLEM

To the Editors of THE LANCET

SIRS—Will you permit me to express a hope that medical practitioners will not lose sight of your suggestion with regard

to writing to their representatives in Parliament to oppose the repeal of the Act for accumulative penalties for non compliance with vaccination. There is now no time to be lost. I much wish copies of your able article in THE LANCET of May 14th, 1892, could be sent to each Member of Parliament. They will, of course, be inundated with the false statements of the anti vaccinationists. It is a great pity that there is not a league of vaccinationists to disseminate the truth.

I am, Sirs, yours faithfully,
Worcester, March 6th, 1893 WM WOODWARD, M D

DENTAL ADVERTISING

To the Editors of THE LANCET

SIRS—The agitation in reference to the suppression of dental advertising is, I think, hardly a judicious one, for the simple reason that it cannot possibly bear fruit. The General Medical Council must, of course, be fully aware that many were making a practice of advertising at the time that they were admitted to the Dental Register, and therefore have practically a vested interest in the manner in which they now pursue their profession. This body of men have given no under taking to subscribe to the so-called etiquette of the profession, and under any circumstances it would have to be shown that advertising *per se* was harmful, apart from the mere sentimental objections to it. Dentists, too, unlike the medical profession, have an appeal to the Courts, and their interests are so large that it would be highly improbable they would be disturbed. It is certainly a hardship that the new "L.D.S." is not able to compete on an equal footing with the mere "registered" men, but the remedy would surely not be found by inflicting an injustice on the latter body. Altogether the movement seems to me to be impracticable, and the present anomalous state of things can only be rectified by the course of time. An effort to obtain a better distinction between the "qualified" dentist and the merely "registered" one would be more reasonable at the present moment, and more likely to yield better results.

I am, Sirs, yours faithfully,
March 1st, 1893 A LOOKER ON

LIGATURE OF THE ANTERIOR TIBIAL ARTERY

To the Editors of THE LANCET

SIRS,—I read with much interest Mr A Pearce Gould's interesting case of ligature of the anterior tibial artery in THE LANCET of March 4th. My object in writing is to draw attention to the great success attending the practice advocated by Mr Gould during the American Civil War. Both Confederate and Federal surgeons tied the anterior tibial artery in cases of compound fracture of the bones of the leg with success. Assistant-Surgeon R O'Leary, P.A.C.S., reports in the November number of the *Confederate States Medical and Surgical Journal* for 1864 a successful case, and the Surgeon General, U.S.A., gives a summary of forty seven ligations of the anterior tibial artery, twenty six patients survived the operation. In seven cases, with four recoveries, the posterior tibial artery was likewise tied. In fifteen cases in which amputation was performed secondary bleeding took place, necessitating ligature of the vessel on the face of the stump. Twelve cases were treated by ligation of the artery at the seat of the injury, of these six recovered and six died, or required amputation—a much smaller percentage than the usual from ligation of arteries, for of the 1155 ligations recorded in the U.S.A., 684 died—a result not to be wondered at when we think of the hardships their wounded troops suffered during the retreats from Fredericksburg, the Peninsula, Manassas, Chancellorsville, and many other great battles. The tendency of the hardships endured during transportation to produce secondary hemorrhage is illustrated by Surgeon Branton's case occurring during the flight from Fredericksburg.

I am, Sirs, yours truly,
GEORGE FOY, F.R.C.S.I.
Cavendish row, Rutland square East, Dublin, March 4th, 1893

FAMINE AND TYPHUS FEVER IN BENCHASI—News has been received in Tripoli to the effect that famine and its common attendant, typhus fever, have been causing terrible mortality amongst the inhabitants of Benchasi, the Turkish African province of Berea.

NORTHERN COUNTIES NOTES

(FROM OUR OWN CORRESPONDENT)

Tyne Sanitary Authority

THE medical officer for the Tyne port sanitary authority, Dr H E Armstrong, has issued a most interesting report, especially as regards the cholera precautions necessary last autumn in consequence of the great inter-communication of the Tyne with foreign infected ports. As regards the work done it is only necessary to state that from Aug 30th to Nov 21st last a continuous inspection was necessary of 497 ships carrying 8059 passengers and hands, and, with few exceptions, these had come from cholera infected ports. Dr Armstrong speaks highly of the work of Dr Clark, Mr Webster, Drs Steegman, Marshall and others, but says very little about his own work and risks, but it is well known and remembered (at least by his professional *confrères*) that he did not spare himself during this trying period, and indeed he remained up a whole night with a cholera patient and only left the poor fellow when he died. It is a pity that Dr Armstrong's exertions have not been adequately appreciated by the Tyne sanitary authority.

The Knight Memorial Hospital, Blyth

The annual meeting of this new institution (which is a great advantage to Blyth and its vicinity) has been held. Dr Newstead says in his report that in all about 800 patients were treated. The financial condition of the hospital is satisfactory, but more subscriptions will be necessary to cope with the increasing population.

Small pox in Northumberland and Durham

Although there is nothing in the nature of an epidemic of small pox in the north, one hears from day to day of cases here and there. It has reappeared at Sunderland, as also in Durham city and Weardale. In most cases it can be traced to tramps and wayfarers. If anything could be done to stop the migrations of these unsettled "gentry" I believe that the disease would before long be stamped out.

Sad Accident to a Durham Grammar School Master

Many of the readers of THE LANCET who have been educated at the Durham Grammar School will be sorry to hear of the sad accident to Mr F A Ker, M.A., tutor of modern languages for several years at that school. Mr Ker, who was very fond of trapeze exercise, fell from the cross bar when practising last Thursday, and he received such injury to his spine that he died in two days in the Durham County Infirmary.

Sunderland

A successful effort was made last week to benefit the infirmary and other charities by the press and dramatic charity carnival, resulting in the sum of £170. Next year it is proposed to enlarge the scope of the attractions by having, as at Newcastle, a musical *matinée* as well. A correspondent of the *Sunderland Echo* says that of the thirty-nine surgeons practising in Sunderland forty two years ago there are only four now remaining.

Middlesbrough Asylum

At a meeting of the Middlesbrough Asylum Committee the architect to the Lunacy Commissioners was instructed to prepare plans for a lunatic asylum to be erected on the Marton estate and to provide accommodation for 220 beds and at the same time for a possible increase of eighty patients.

Newcastle on Tyne, March 9th

SCOTLAND

(FROM OUR OWN CORRESPONDENTS)

Edinburgh Medico-Chirurgical Society

At the meeting of this Society last week Dr John Duncan read a paper on the Surgical Treatment of Gall stones, in which he gave his experience of operation in ten cases. One of these there was only one death and the patient who died was an old and much worn out man. He regarded the operation as a suitable and a safe proceeding. The second paper was by Dr Rutherford Morison of Newcastle on Some Mistakes and Accidents in the Technique of Abdominal Operations. The paper was a very practical one, illustrated by Dr Morison's experience.

Aberdeen Asylum for the Blind Annual Report

The report for 1892 shows that forty seven blind persons had been employed in the workshop of the institution, and the sum disbursed in wages, for holidays, sick allowance &c., was £1353 18s 3d, this being the largest sum paid in any one year since the asylum was opened in 1843. Ten children had been educated and had received industrial training. The donations received during the year amounted to £524 18s 2d, being a decrease of £17 6s 8d. There was excess of expenditure over ordinary income of £376 8s 0½d.

Health of Aberdeen.

Last week there were notified 2 cases of measles, 6 of scarlet fever, 1 of typhoid fever, 2 of erysipelas and one of puerperal fever—total, 12 cases.

Medical Officers to Aberdeen Corporation Employees

This week the Aberdeen town council appointed Messrs J. A. R. Glennie, M.B., J. R. Levack, M.B., and J. Marnoch, M.A., M.B. Aberd., to be medical officers to their employees. These are new appointments and this is the first election.

Aberdeen University

Amongst the list of honorary graduates in Laws (LL.D.) issued this week are the names of Sir Frederic Bateman, M.D., F.R.C.P., and Professor Crum Brown, M.D. Edin., D.Sc., F.R.S. &c.

March 7th.

IRELAND

(FROM OUR OWN CORRESPONDENT.)

Small-pox

THE registrar of Lisburn District has reported that two fresh cases of small pox have occurred in his district. He has strongly recommended revaccination. None of the inmates in the houses will consent, though all the children in the infected houses are vaccinated.

Case of Opium Poisoning

A graduate of Trinity College committed suicide last week by taking a large quantity of laudanum. He was addicted to drink and was in the habit of taking laudanum. The druggist who sold the laudanum (two ounces) stated that he could sell it to any person so long as it was labelled "poison," which caused the coroner to remark that it was a very bad Act of Parliament which allowed the sale of laudanum without a medical man's certificate.

His Excellency the Lord Lieutenant has placed Dr. Sappell on the Commission of the Peace for the Borough of Drogheda.

March 7th.

PARIS

(FROM OUR OWN CORRESPONDENT.)

Microbeless Islands

DURING a recent sojourn in the Spitzbergen group of islands in the Arctic regions M. Couteaud took the opportunity of studying the bacteriological peculiarities of these ice-bound spots. Analysis of the air, water and soil of Spitzbergen brought to light the extraordinary poverty of these regions in bacteria. Whilst, according to Miquel, the air of the streets of Paris contains on an average 51,000 bacteria, that of the Arctic Seas contains only 3 per cubic metre. As to the water of Spitzbergen, not only is it devoid of any pathogenic micro-organisms whatever, but all bacilli are absent. In the water of the island of Jean Mayen, however, there were discovered the bacterium termo and a few short and mobile bacilli. The bacillus subtilis so commonly met with in the different countries of Europe, was undetectable in the soil of those regions. At Jean Mayen there was found in abundance a leptothrix composed of long filaments irregularly twisted about 1 µ in diameter, producing elliptical and highly refracting spores. This species grows on gelatine into dense colonies, which possess no liquefying properties, but develop during growth a characteristic brown colouration. Despite these obvious advantages I doubt if Spitzbergen will ever come to be regarded as a desirable sanatorium for microbe-ridden humanity.

A Delicate Problem

The *secret professionnel* is an important factor in the life of a French medical man, seeing that the divulging of any information that can possibly be ranged in that category renders the informant liable to a heavy penalty. No wonder, then, that this question is, in its various phases, periodically discussed by professional corporations. The Association Syndicale des Médecins de la Seine having recently taken into consideration the proper course to be pursued by a physician called in by the family to a case of abortion in an unmarried girl staying with her aunt, the patient having attained her majority, decided unanimously that the practitioner was bound to absolute secrecy as to the nature of the illness. M. Le Blond maintained, however, that should the doctor be called in by the family they should be told the truth, but that if the young girl has herself sent for him it is his duty to keep the secret. If the girl be a minor, the family should, according to M. Petit-Vendol, be told the truth.

Phthysical Patients in Paris Hospitals and their Cost

A special hospital for phthysical patients corresponding with your own Brompton establishment does not exist in Paris. Traverse any of the medical wards in the general hospitals and you will find a large proportion of the beds occupied by poor sufferers from pulmonary tuberculosis. Apart from the acknowledged danger of infection thus thrust upon the other occupants of the wards, it has long been felt that it is not fair to the population to perpetuate this monopoly of beds by patients who, apart from the better nourishment offered them in hospital, derive very doubtful benefit by their sojourn in a germ-laden atmosphere. In a recent article on the subject M. Letulle (*Revue d'Hygiène*) gives some figures which speak for themselves. His investigations were limited to three hospitals during the year 1891.

Hospital.	Total No admitted on medical side	Phthysical patients.	Total deaths	Deaths from Phthisis
St. Antoine	11,680	1960	1433	525
Beaumont	6,169	554	723	234
Charité	—	1055	547	229

At St. Antoine, of 271,076 days in hospital, 55,200 are absorbed by phthysical cases, entailing an expense for the latter's maintenance of 154,560 francs out of 759,012 francs (the total expense). At the Charité, 31,816 out of 135,489 days in hospital are apportioned to phthysical patients, the cost being for them 108,174 francs out of a total of 460,662 francs. From the above figures it is seen that at least one fifth of the days in hospital and of the total cost is taken up by phthysical patients. Can anybody truly say that the result is anything like commensurate with the cost and with the sufferings entailed on disappointed candidates for admission? And how many originally phthisis free patients contract phthisis during their stay in wards thus contaminated?

March 7th.

BERLIN

(FROM OUR OWN CORRESPONDENT.)

Cholera in Prussia

A MEMORIAL regarding the measures taken against cholera attacks was laid before the Prussian Lower House the other day, and from it the following items may be taken.—The number of cases reported in Hamburg before the end of 1892 was 18,008, that of the deaths 7622. In all probability the epidemic was due to the fact that the water of the Elbe at the place at which it flowed unfiltered into the conduits of the city was infected. "It is almost absolutely certain that the comparatively small numbers of cases and deaths (578 and 331) in the city of Altona, which is immediately connected with Hamburg, the streets of the one being uninterrupted prolongations of those of the other, and which does not differ from that city in any of the vital conditions concerned, were due solely to the superiority of the water supply. The percentage of death in Hamburg was 1/24 in Altona 0/23." Special attention is drawn to the infecting of rivers and canals by barges, which carry with them infected bilge water and discharge it into uninfected waters, not to mention the fact that their inmates take their water indiscriminately from the rivers and empty their refuse into them. In Berlin there were only thirty-two cases, seven of the patients came from Hamburg by land, fourteen were inmates of barges, and

the remaining eleven cases were mostly directly traceable to the water of the Spree. As regards the prospects for the future, the memorial says "Unfortunately it cannot be said that cholera was extinct in Prussia at the end of 1892, for several cases imported from Hamburg occurred in Altona in the last week, and, considering the present state of the epidemic in Hamburg, invasions from there are still to be feared. The same danger threatens from the neighbouring western and eastern countries, for in the last week of the year cases were reported from the north of France and the Netherlands and from the Russian Polish Governmental districts of Radom, Lublin, Warsaw, Plock and Lomza. It is also possible that in Prussia itself germs emanating from last year's cases have remained undestroyed and that, after lying latent for an indefinite time, they may again develop under more favourable conditions and cause a new epidemic."

The German naturalists and medical men will hold their annual meeting in Nuremberg from Sept 11th to Sept 16th. Professor von Helmholtz will deliver an address.

It is expected that the Sanitary Conference in Dresden will be opened next Saturday, the 11th inst.

The city of Berlin intends to build a fourth hospital, but the project is still in a very preliminary stage.

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On the Use of Benzozol in Diabetes Mellitus

BENZOSOL or benzoyl guaiacol, which has been introduced by Dr Bougarts as a substitute for creosote and guaiacol, has recently been recommended as a very useful remedy in diabetes mellitus by Dr Piatkowsky of Cracow. It is administered in doses of one to three grammes per diem. According to a recent communication at a meeting of the physicians at Prague by Professor Jaksch, the sugar disappeared from the urine after the administration of benzozol for eight days in the case of a female patient aged fifty-six years who had 5.7 per cent of sugar, but the patient died in consequence of a toxic enteritis with grave jaundice, which was attributed to the use of the remedy. On the other hand, it has been pointed out by a Vienna chemist that caution must be exercised with regard to the polarimetric examination of the urine in cases where benzozol has been administered, as the urine of persons who have taken this drug polarises to the left and therefore the polarimetric examinations of the urine of such persons, when it contains sugar, are misleading.

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At a recent meeting of the Austrian Parliament the Minister of Public Instruction promised that the erection of the new Physiological Institute and of the new Surgical Clinic of Professor Billroth would soon be commenced.

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The Convocation of Oxford University was on Tuesday last engaged in discussing a question of some difficulty in connexion with the proposal to erect a fever hospital adjoining the City Hospital. It appears that the authorities of the Radcliffe Infirmary had determined to close its wards for infectious cases, so that it became necessary that provision should be made for such cases elsewhere. The scheme provided that the new hospital, with twelve beds, should be administered by the committee of the Sarah Acland Home and that the cost of its maintenance should fall upon the undergraduates. The proposal was criticised adversely by Dr Collier, who preferred an iron and wooden structure for the purpose suggested rather than a costly permanent building. The question of site with regard to its healthfulness was also made a matter of dispute. Sir Henry Acland confessed to having great difficulty in deciding for himself how he ought to vote in the matter, and ultimately the proposal was rejected by a majority of 43 against 33.

Obituary.

JAMES ANDERSON, M.A., M.D. ABERD., F.R.C.P. LOND.

It was with great regret that we last week intimated the sudden and premature death of Dr James Anderson, after an illness of about thirty hours' duration. We now give a brief outline of his life—a life in which it will be seen that the foundations of success were laid in most careful preparation and much hard work. Dr James Anderson was born in the year 1853 in the parish of Logie Buchan, Aberdeen shire, where his father was a farmer and grain merchant. The family consisted of three brothers and two sisters, the subject of this notice being the second brother. His father went to Australia to push his fortune, and died there within a short time. Upon the mother, therefore, devolved the care and upbringing of the family, and James Anderson was ever ready to acknowledge how much he owed to his mother. She was a woman of rare gifts, uniting a strong intelligent mind and much good sense with great tenderness and depth of feeling. Between mother and son the bond of affection was of the strongest and deepest. After being some time at the parish school James Anderson entered Gordon's Hospital School, where he was retained for six years as a most promising pupil to be sent up to the university. Having gained a bursary in the Faculty of Arts, he entered the University of Aberdeen. His course in Arts was very distinguished, his place in all the classes being very high, and in 1873 he took his degree of M.A. He carried off the gold medal as the best student of his year, and also the Murray scholarship—a scholarship tenable for three years and enabling its holder to prosecute scientific study. The above record is in itself a remarkable one, but it becomes far more so in Dr Anderson's case from the fact that during all his university course he was obliged to engage in laborious private teaching, which so filled up his time that his own work was done mainly in the hours that should have been given to sleep. The habit thus formed of doing without sufficient sleep and of carrying on his work far into the night grew upon him in later years and undoubtedly impaired a constitution never the most robust. Dr Anderson pursued his course of medical study with equal distinction, taking a first place in almost all his classes and graduating M.B., O.M., with highest academical honours in 1877. During the next two years he was demonstrator of anatomy under Professor Struthers, and at the conclusion of that time he went to Berlin and Vienna, where he spent a year in study, mainly in the special departments of ophthalmology, laryngology &c. He then settled in London, was for a time clinical assistant at the Royal London Ophthalmic Hospital and at the Hospital for Skin Diseases, Blackfriars, and shortly afterwards was appointed a demonstrator of anatomy at the London Hospital. In 1881 he became a Member of the Royal College of Physicians of London, and received the appointment of assistant physician to the City of London Hospital for Diseases of the Chest—an appointment which he held for some years. Dr Anderson was also appointed medical registrar at the London Hospital, upon which followed in 1886 his appointment as assistant physician to that hospital, where likewise, at the time of his death, he was lecturer on pathology. In 1888 Dr Anderson was elected assistant physician to the National Hospital for the Paralyzed and Epileptic, Queen's square, and only a week or so ago he became full physician to that institution. He was formerly an examiner in physiology and natural history in the University of Aberdeen, and a member of the Examining Board of the Royal College of Physicians of London and of the Royal College of Surgeons of England. He had held the offices of secretary to the Ophthalmological and Neurological Societies, was a Fellow of the Royal Medical and Chirurgical Society, and a member of the Pathological and Clinical Societies. He was for a time joint editor of the *Ophthalmological Review*, and was the author of the article "Epilepsies and Insanities" in Tuke's Dictionary of Psychological Medicine and of "Abnormalities of the Kidney" in Kailfo's "Diseases of Kidneys." He devoted a great deal of time to clinical teaching at the hospitals with which he was connected, and this, together with his increasing private practice, made it impossible for him to write much, but he had published some valuable papers in medical journals, chiefly upon ophthalmological and neurological subjects. Any

latter pertaining to his old university bad for him the reatest interest. He was one of the founders of the Aberdeen University Club, London, and amongst the last letters he wrote was one relating to the portrait of his old friend and teacher, Professor Struthers. Dr Anderson's illness was sudden and of brief duration. His mother's death, just a year ago, was a great trial to him, and he hardly seemed the same man after it, but yet, on Sunday, Feb. 26th, he appeared to be in his usual health and made no complaint of illness. When his servants retired for the night he was writing in his study, and he posted his letters between 2 and 10 o'clock. After that time he was seized with diarrhoea, leading to syncope and followed by pleuro-pneumonia, and he was found in his study in the morning in a state of collapse. He never fully rallied. The heart failure continued and became more marked. There was intestinal hæmorrhage and rapid engorgement of the lungs. He died at eight o'clock on Tuesday morning, Feb. 28th. As a man, as a teacher, as a physician and as a friend, Dr James Anderson was beloved by all who were privileged to know him. His intense love of truth, his pure-mindedness, his unselfish and unobtrusive kindness and his sympathy endeared him to all who came in contact with him. Although often weary with the burden of his own work, his sympathetic nature never refused help or advice to those who sought it. The young student, the busy practitioner and the old personal friend, all alike went to him with their troubles, and were sure not only of a ready response and of sympathetic interest but of wise counsel and of practical help. In the hearts of his friends his place can never be filled.

One of his colleagues, who knew him well, writes—"Dr James Anderson's death is a bitter calamity for his numerous friends. The suddenness of his decease in the midst of what seemed to most energetic vitality makes his loss the less bearable to those intimately associated with him. There is something of irreplaceable value torn out of their lives. He was too good a man to be bedizened with laudatory adjectives. To say that he was honourable and that he was courageous in right conduct is to apply words which, from lavish use, have lost much of their definite meaning. But to those who knew Anderson well they, applied to him, who was the embodiment of straightforwardness and rectitude, fill out with meaning. He was a bright example of what a medical man should be in his endeavours for success, I do not mean a commonplace success, but that to be earned by good work, done without mere personal aims, and not done only on lines of conventional ambition. Bacon wrote 'I hold every man to be a debtor to his profession, from the which, as men of course do seek to receive countenance and profit, so ought they of duty to endeavour themselves by way of amends to be a help and ornament thereunto.' Anderson certainly did his work as if he felt himself a debtor to his profession. Very many men will find themselves more able practitioners and more worthy members of our great profession in consequence of his teaching and example. Anderson will live in their grateful memory. Let it be a pain to think that one so endowed naturally, disciplined so greatly by a severe intellectual training and so well equipped with most varied technical knowledge, should have left behind him on printed record so little to testify to those who did not know him personally his intellectual power and moral worth. I say moral worth in this regard in respect of scientific work. For love of accuracy and truthfulness are not really so distinct as popular speech makes them out to be. A love of accuracy is as much a moral as an intellectual quality. Anderson in his daily medical work was never anxious to be definite when accuracy was impossible, would not speak as if he knew when he could only suppose, and did not take a simple view of a complex case by ignoring its difficulties. Yet he had nothing in common with the Philistine who talks of facts as if they had no relation to general principles—facts *in vacuo*."

Dr Struthers writes—"My acquaintance with Dr James Anderson began in the summer session of 1873, when he commenced his medical studies on the conclusion of his four years arts course in the university. He had been a distinguished student in arts, and at the end of the course had awarded him the gold medal given by the magistrates and town council of the city to the most distinguished scholar at the termination of the arts curriculum, and he had gained the valuable Alexander Murray Scholarship, open to competition amongst all the graduates in arts of the last three years, tenable for three years. During the three years he was in the anatomy class he was first prizeman in each year in the various stages and branches,

and in the third year in regional anatomy. He was recognised as the leading student in my class during all that time, and I may say in the medical school generally, his name, I see, occurring repeatedly as first prizeman in other classes. Besides the natural ability and working habit which gained him these distinctions he showed already as a student the qualities of character for which he was remarkable in after life. He graduated in medicine in April, 1879—I need hardly add, with 'highest honours'—and I had no hesitation in selecting him at once for the responsible position of demonstrator of anatomy. The various duties of that position he discharged most ably, having charge of the dissecting room as chief assistant, conducting entirely an osteology class for beginners, conducting with me the summer laboratory course of practical histology, and when I had occasion to be absent he took my place in the lecture-room. I could trust Dr Anderson in every way, not only for his ability and attainments, but for his conscientiousness and his high sense of honour. It was a great regret to me when the inevitable time for his leaving came, for there was no fit career for him in Aberdeen. Before going to London he went for further clinical experience to Berlin and Vienna, accompanied by his friend, Dr Alexander Macgregor now of Aberdeen, who had been junior demonstrator with him in anatomy. In London Dr Anderson attached himself to the London Hospital, beginning as demonstrator of anatomy, where his work was soon recognised by Sir Andrew Clark, Dr Stephen Mackenzie, Mr Treves and other members of the staff. The various appointments Dr Anderson held at the London Hospital and its school, and elsewhere in London, and the position he had made for himself in London, are well known. During these twelve or thirteen years of his London life I have seen him from time to time and have observed in him the development of the same qualities that he showed in his time with me, his devotion to work, his remarkably judicious mind, his composed, unassuming manner and his kindness of heart. Dr Anderson's progress in the arduous aim at position as a London physician was rapid, the more so considering that he began as a stranger there, and it would have been surprising to me had I not known his ability and character. Years ago from what he told me when he removed to his house at Wimpole-street he already had his foot firmly on the ladder of consulting practice, and I do not doubt that he would have attained to the highest rank in that position. His early death is a profound grief to all who knew him personally, and it may without exaggeration be said that the death of such a man is a loss to the medical profession. That one so physically strong as Dr Anderson was should have fallen so early may appear surprising. I am led by his death to think of the number of able and most promising assistants I have had both in Edinburgh and Aberdeen who have gone down in early life. There are limits to the extent to which even an iron frame can stand long years of constant overwork, day and night. When to that is added the London atmosphere and the consideration that the younger men of the hospitals are often kept on duty too much in the autumn when their seniors who have survived the ordeal are having their well earned holiday early breakdown need not be surprising. I trust that steps will be taken to perpetuate Dr James Anderson's name in some suitable way at Aberdeen and at the London Hospital School."

Dr Johns who was housephysician to the late Dr Anderson, supplies the following. As assistant physician, with the charge of out-patients and with fifteen beds for in patients, Dr Anderson was brought much in contact with the students, and it was his ambition to bring himself into touch with all who worked with him. It was the ready sympathy which he showed to all with the difficulties of their professional work, and the kind attention he gave to personal troubles, however apparently trivial, together with the soundness of his advice, that so completely endeared him to all who had the privilege of coming into contact with him. As a teacher in the out-patient department he was unsurpassed for the rigid thoroughness of his methods of examination, with a most emphatic manner of impressing the important features of each case on his hearers. He himself a most earnest student and thorough in every detail of examination and inquiry would allow no half measures among those working with him, and by his very example roused a spirit of enthusiasm like his own. In the out-patient department he constantly, tired with the work of a heavy afternoon, would, after the last case had been seen in spite of the calls on his time devote an hour or more to a short clinical lecture on methods of examination and diagnosis, emphasising his remarks by

theremaining eleven cases were mostly directly traceable to the water of the Spree. As regards the prospects for the future, the memorial says "Unfortunately it cannot be said that cholera was extinct in Prussia at the end of 1892, for several cases imported from Hamburg occurred in Altona in the last week, and, considering the present state of the epidemic in Hamburg, invasions from there are still to be feared. The same danger threatens from the neighbouring western and eastern countries, for in the last week of the year cases were reported from the north of France and the Netherlands and from the Russian Polish Governmental districts of Radom, Lublin, Warsaw, Plock and Lomza. It is also possible that in Prussia itself germs emanating from last year's cases have remained undestroyed and that, after lying latent for an indefinite time, they may again develop under more favourable conditions and cause a new epidemic."

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Obituary.

JAMES ANDERSON, M.A., M.D. ABERD., F.R.C.P. LOND.

IT was with great regret that we last week intimated the sudden and premature death of Dr James Anderson, after an illness of about thirty hours' duration. We now give a brief outline of his life—a life in which it will be seen that the foundations of success were laid in most careful preparation and much hard work. Dr James Anderson was born in the year 1853 in the parish of Logie Buchan, Aberdeen shire, where his father was a farmer and grain merchant. The family consisted of three brothers and two sisters, the subject of this notice being the second brother. His father went to Australia to push his fortune, and died there within a short time. Upon the mother, therefore, devolved the care and upbringing of the family, and James Anderson was ever ready to acknowledge how much he owed to his mother. She was a woman of rare gifts, uniting a strong intelligent mind and much good sense with great tenderness and depth of feeling. Between mother and son the bond of affection was of the strongest and deepest. After being some time at the parish school James Anderson entered Gordon's Hospital School, where he was retained for six years as a most promising pupil to be sent up to the university. Having gained a bursary in the Faculty of Arts, he entered the University of Aberdeen. His course in Arts was very distinguished, his place in all the classes being very high, and in 1873 he took his degree of M.A. He carried off the gold medal as the best student of his year, and also the Murray scholarship—a scholarship tenable for three years and enabling its holder to prosecute scientific study. The above record is in itself a remarkable one, but it becomes far more so in Dr Anderson's case from the fact that during all his university course he was obliged to engage in laborious private teaching, which so filled up his time that his own work was done mainly in the hours that should have been given to sleep. The habit thus formed of doing without sufficient sleep and of carrying on his work far into the night grew upon him in later years and undoubtedly impaired a constitution never the most robust. Dr Anderson pursued his course of medical study with equal distinction, taking a first place in almost all his classes and graduating M.B., O.M., with highest academical honours in 1877. During the next two years he was demonstrator of anatomy under Professor Struthers, and at the conclusion of that time he went to Berlin and Vienna, where he spent a year in study, mainly in the special departments of ophthalmology, laryngology &c. He then settled in London, was for a time clinical assistant at the Royal London Ophthalmic Hospital and at the Hospital for Skin Diseases, Blackfriars, and shortly afterwards was appointed a demonstrator of anatomy at the London Hospital. In 1881 he became a Member of the Royal College of Physicians of London, and received the appointment of assistant physician to the City of London Hospital for Diseases of the Chest—an appointment which he held for some years. Dr Anderson was also appointed medical registrar at the London Hospital, upon which followed in 1886 his appointment as assistant physician to that hospital, where likewise, at the time of his death, he was lecturer on pathology. In 1888 Dr Anderson was elected assistant physician to the National Hospital for the Paralyzed and Epileptic, Queen's square, and only a week or so ago he became full physician to that institution. He was formerly an examiner in physiology and natural history in the University of Aberdeen, and a member of the Examining Board of the Royal College of Physicians of London and of the Royal College of Surgeons of England. He had held the offices of secretary to the Ophthalmological and Neurological Societies, was a Fellow of the Royal Medical and Chirurgical Society, and a member of the Pathological and Clinical Societies. He was for a time joint editor of the *Ophthalmological Review*, and was the author of the article "Epilepsies and Insanities" in Tuke's Dictionary of Psychological Medicine and of "Abnormalities of the Kidney" in Ralfe's "Diseases of Kidneys." He devoted a great deal of time to clinical teaching at the hospitals with which he was connected, and this, together with his increasing private practice, made it impossible for him to write much, but he had published some valuable papers in medical journals, chiefly upon ophthalmological and neurological subjects. Any

alluding to the cases of interest which had recently been treated. To these lectures, and by watching and trying to follow Dr Anderson's methods, many of us owe what is best in our knowledge of diagnosis and treatment. As a demonstrator of morbid anatomy he was most popular for his careful and accurate examinations, always ready to give, and indeed inviting criticism of his remarks that he might give, the reasons for all his statements and thus impressing the truth of his words on his hearers. That he was popular as a lecturer on pathology can be gathered when we are told that, though following such an esteemed and eloquent lecturer as the late Dr Sutton, the theatre was crowded for his lectures, not only by the men in the college but by men qualified and unqualified of all years, and his words followed by as much attention as was accorded to his unrivalled predecessor. His popularity as a lecturer was not confined to the students. As lecturer to the nursing staff his loss is felt by every nurse and sister in the hospital, and his knowledge of all the minor details of nursing was remarkable. With regard to the students generally he was a universal favourite from his absolute straightforwardness. He invited the confidence of all about him by proving himself worthy of it, and I am but expressing the feeling of my fellow students when I say that we have not only lost a great teacher but a friend."

A meeting was held on Tuesday at 16 Cavendish square, for the purpose of considering the advisability of instituting some memorial of the late Dr James Anderson. There was a large attendance, and amongst those present were Sir Andrew Clark, Mr Hutchinson, Mr Nettleship, Drs Hughlings Jackson, Ormerod, Stephen Mackenzie, Fernier and Mitchell Bruce. Touching reference was first made to the loss the medical profession had sustained through Dr Anderson's untimely death. The meeting then expressed itself as strongly in favour of the proposed memorial being founded, and resolved, if possible, to coöperate with a similar movement which has been started in Aberdeen. The following committee was then appointed to carry out the preliminary arrangements—Sir Andrew Clark (chairman), Dr Hughlings Jackson, Dr Ormerod, Dr Fernier and Dr Gilbert Smith. Dr Burnet and Dr Fitzgerald were appointed honorary secretaries.

At a meeting of the Aberdeen University Council on Saturday last Principal Sir William Geddes referred to the death of this distinguished graduate. He had attained, he said, by his own energy, skill and perseverance in the path of duty, almost the highest rank in his profession in the metropolis, and to them, in their alma mater, he was memorable as a typical example of the cultured physician—a fine specimen of what the combined training in arts and medicine at Aberdeen could enable a man to achieve. Eminent Professor Alexander Bain, LL.D., also spoke of the sudden loss of this distinguished physician, and alluded to the melancholy interest attaching to one of Dr Anderson's last remarks to him: "I shall be very happy if my system at seventy-two is found as good as yours."

PROFESSOR BENJAMIN BALL (OF PARIS)

ON Sunday, the 26th ult., the remains of Dr Benjamin Ball, Professor of Mental Medicine at the Paris Faculty and Physician to the Laennec Hospital, were laid in their final resting place. Professor Ball's last appearance as a lecturer was at the St. Anne's Asylum on Jan. 17th, 1892, the subject being "La folie politique." Since the 22nd of that month he had been incapacitated from work, his place in the chair of Mental Medicine and as Physician to the Laennec Hospital being provisionally taken by Dr Ballet and Dr Petit respectively. For some months before his death he was aphasic, but up to the very last his intellectual faculties remained intact and he was able to sign his name shortly before the fatal dénouement. After a short service performed by the Protestant pastor, M. William Monod, at the late Professor Ball's residence, 35 Rue des Martyrs—a very appropriate name, seeing that he probably fell a victim to excessive mental strain—the funeral procession wended its way past the detachment of the 2nd Regiment of Marine Infantry in attendance in honour of the dead knight of the Legion of Honour, and finally deposited the remains in a vault in the Montmartre cemetery. Amongst the large body of mourners at the house and at the grave were nearly all the professors and *professeurs agrégés* of the Faculty in their picturesque robes including MM Charcot, Brouardel, Guyon, Farabeuf, Matthias Duval, Tarnier, Hayem, Tillaux, and M. Gréard, Vice Rector of the Academy of Paris,

together with many of Professor Ball's former *chefs de clinique*, internes and pupils. The pall bearers were Professor Brouardel, Dean of the Faculty, M. Darboux, Dean of the Academy of Sciences, Dr Peyron, director of the Assistance Publique, and Dr Bergeron, representing the Academy of Medicine, of which the deceased was a distinguished member. In deference to the express wish of the deceased, the usual French custom of delivering eulogistic speeches at the grave was omitted. The hearse was followed by deputations of nurses from Laennec Hospital and St. Anne's Asylum in caps and aprons. Huge wreaths of natural flowers, chiefly Parma violets, were conspicuous in the procession, the senders being the Association des Étudiants, the nurses above mentioned and his old pupils, the inscription on the latter wreath being *A leur Professeur Ball*.

Benjamin Ball was born at Naples on April 20th, 1833, his father being English and his mother Swiss, a scion of the ancient Huguenot family of Autran. Naturalised as a Frenchman in 1849, he became an *externe* in 1854, an *interne* in the following year and *chef de clinique* in 1863. During his *internat* he was *lauréat des hôpitaux* and Laureate of the Academy of Medicine (Prix Portal, in collaboration with M. Charcot). In 1866 he became *professeur-agrégé*, his thesis being entitled "Du Rhumatisme Viscéral et du Rhumatisme Cérébral." In 1870 he was appointed a hospital physician. Seven years later the new chair of Mental Medicine was created expressly for him. His lectures, delivered every Sunday morning in the theatre of St. Anne's Asylum, were remarkable for their lucidity and for the pure and beautiful idiomatic French in which they were couched. No wonder, then, that the theatre was always crowded to overflowing, all nationalities being represented amongst his delighted hearers. He quickly became idolised by students, to whom he was ever most kind. More especially was this the case with English and American students, who never failed to find in him a true friend. The following is as complete a list of the late Professor Ball's works as is available at the present juncture: "Leçons sur les Maladies Mentales" (900 pages, 1883), "De la Morphinomanie" (second edition, 1888), "De la Folie Érotique" (1 vol., 1887), "La Claustrophobie" (*Annales Médico-Psychologiques*, 1879), "Ischémie Cérébrale Fonctionnelle," "Les Impulsions Intellectuelles," "Phthisie et Folie," "La Torpeur Cérébrale," "La Stigmatisée de S—," "L'Insanité dans la Paralyse Agitante" (Congrès de Londres, 1881), "Le Crétin des Batignolles," "Les Familles des Aliénés," "Responsabilité Partielle des Aliénés," "L'Aliéné devant la Société," "La Folie du Doute," "La Dipsonomie," "Les Frontières de la Folie," "La Folie Gémellaire," "L'Hébéphrénie ou Folie de la Puberté," "La Folie à Deux," "Épilepsie avec Conscience," "Folie Consécutives au Choléra," and "Hallucinations de l'Oùle Consécutives à une Inflammation de l'Oreille Moyenne" (all the articles preceding were published in the *Encéphale*, which he founded and edited with M. Luys). In the *Dictionnaire Encyclopédique des Sciences Médicales* he wrote with M. Ritti on Delirium, and with M. Chambard on Acute Delirium, Delirium Tremens, Dementia, Sleep and Somnambulism. In the neuropathic field he contributed the following papers: "Des Arthropathies Lées," "L'Ataxie Locomotrice," "De l'Erythème Symptomatique des Tumeurs Cérébrales," "Mal Perforant du Pied dans l'Ataxie Locomotrice" (London Congress, 1881, in English), and "Tumeurs et Abscess du Cerveau." To these must be added eleven papers (including his Thesis for the Doctorate in 1866 on Pulmonary Embolism) on general medicine. Dr Ball was a Member of the Academy of Medicine, and corresponding member of learned societies in London, Lisbon, New York, Glasgow &c. Glasgow University conferred on him, on the occasion of the last meeting of the British Medical Association held there, the honorary degree of LL.D. He was very proud of this distinction. He spoke fluently no less than seven languages. Three years ago he presided at the annual banquet of the Continental Anglo-American Medical Society, and made on that occasion an admirable speech. Indeed, he always delighted in being surrounded by Englishmen, to whom he was particularly fond. He was an inveterate chess player. His house was always open to students, and it may truly be said that no larger hearted couple ever existed than Dr and Madame Ball. It may be mentioned that Madame Ball's father was M. Camier Belleuse, who after being Director of the Wedgwood Minton works at Stoke-upon-Trent, became Artistic Director of the celebrated Sèvres Manufactory. Her two brothers are well known artists. Dr Ball was for many years a valued contributor to the columns of THE LANCET.

MEDICAL TRIAL

ROYAL COLLEGE OF PHYSICIANS OF LONDON
AND GENERAL MEDICAL COUNCIL.

Is the action of the Royal College of Physicians of London claiming a declaration that at the date of the passing of the Medical Act, 1886 they were entitled to grant a diploma in respect of medicine and surgery, and to hold such qualifying examination in medicine surgery and midwifery as mentioned in the Medical Act of 1886 of which a summary appeared in THE LANCET of last week, judgment was delivered on Wednesday last by Lord Justice A. L. Smith as follows—

The question for determination is whether the defendants, the General Council of Medical Education and Registration of the United Kingdom are entitled to place upon the Register of medical practitioners the name of a Fellow, Member or Licentiate of the Royal College of Physicians of London, who produce to the defendants Registrar a diploma granted by the plaintiffs to practise physic, including therein the practice of medicine, surgery and midwifery. The answer to be given to this question depends upon this single point—viz. "Was the Royal College of Physicians of London at the date of the passing of the Medical Act, 1886 (49 and 50 Vict., c. 48) a medical corporation legally qualified to grant a diploma in respect of medicine and surgery?" It is not disputed that the applicant for registration in the present case had been efficiently examined by the plaintiff in each of these three subjects and that the requisite evidence as to this was forthcoming. The defendants admit that the plaintiff corporation is legally qualified to grant a diploma in respect of medicine, but the position they take up is that it is not a corporation legally qualified to grant a diploma in respect of surgery. By the Medical Act, 1853 (21 & 22 Vict., c. 90) the defendants, the General Council, were created, and it was therein enacted that a Register of medical practitioners should be kept. Section 14 prescribed the duty of keeping this Register, and Section 15 provided for the registration of practitioners. By this section every person thereafter becoming possessed of, amongst others the qualification of Licentiate of the Royal College of Physicians of London, became entitled to be registered on producing to the Registrar the document conferring or evidencing the qualification, whereof he sought to be registered, which in this case consisted of the diploma of the Royal College of Physicians of London, issued by them to their licentiate to practise physic, including therein the practice of medicine, surgery and midwifery. It will be noticed that it is upon the production of the diploma that the applicant is entitled to be registered and that the Medical Council under this Act could raise no question as to where, when, or in what the applicant had been examined. It is only by Sections 20 and 21, if the Council thought that the course of study and examination prescribed by any college or body was not sufficient, that they might intervene, and then could only make a representation thereof to the Privy Council, who might suspend the right of registration if it thought fit. The Medical Council could not refuse to register if the requisite diploma were produced. So matters continued for nearly thirty years down to the passing of the Medical Act of 1886 when for the first time it was enacted that no person should be registered under the Medical Acts in respect of any qualification unless he had passed a qualifying examination in medicine, surgery and midwifery, held by, amongst other bodies, "a medical corporation legally qualified at the date of passing of that Act to grant a diploma in respect of medicine and surgery." Was, then, the Royal College of Physicians of London such a corporation in 1886? That is the point. By charter granted by Henry VIII. dated Sept. 23rd, 1518 being the tenth year of his reign the President, and College, and Commonalty of the Faculty of Physic in London better known as the Royal College of Physicians in London, were incorporated to exercise medicine (Medicina) in the City of London and the suburbs and within seven miles from the City on every side. It was by this charter granted that no one in the City or for seven miles in circuit of the same, should exercise the faculty of medicine unless admitted thereto by letters of the President and Commonalty sealed with their common seal. By the 14th and 15th Henry VIII., c. 5 (1522) this charter was confirmed, and by Section 3 it was enacted that

no person from thenceforth be suffered to exercise or practise physic through England until such time as he be examined at London by the said President and three elects and to have from them letters testimonial of their approving and examination. There was an exception made in this Act in favour of graduates of Oxford and Cambridge. Eighteen years afterwards—viz., in 1540—an Act was passed (32nd Henry VIII., c. 40) relating to physicians and their privileges. Section 3 is most important, and I set it out at length "And forasmuch as the science of physic doth comprehend, include and contain the knowledge of surgery as a special member and part of the same, therefore be it enacted that any of the same company or fellowship of physicians may from time to time as well within the city as elsewhere within this realm, practise and exercise the said science of physic in all and every his members and parts, any Act, statute or provision made to the contrary notwithstanding." Here, it will be seen, is a direct recognition by statute that the science of physic comprehended included and contained the knowledge of surgery as a special member and part thereof, and that the statute granted to the Company or Fellowship of Physicians the privilege of practising such science of physic within the realm, notwithstanding any Act, statute or provision to the contrary. In my judgment this statute shows that the word "medicina," which, in English, is equivalent to the word "physic" at that time at any rate embraced the general art of healing, whether by drugs or surgery and was not confined to the healing by drugs as was argued on behalf of the defendants. It appears that from the earliest time down to recent date the diploma granted by the plaintiffs and their predecessors to their Fellows and Licentiates was as far as material, in the following form—"Ego A. B., Presidens hujus collegii, admitto ad medicinæ facultatem tam docendam quam exercendam." It is not denied by the defendants that the Fellows and Licentiates who obtained these diplomas have been accustomed to practise as general practitioners in medicine, surgery and midwifery, or in either as to them seem best. Sir Horace Davey for the defendants commenced with the Charter of 1st Edward IV. granted to the barbers and traced down the history of the surgeons from this through 3rd Henry VIII. (1511), an Act purporting to relate to the appointment and examination of persons to act as physicians and surgeons within the City of London and seven miles round (though when the Parliament roll was examined it was found that as the Act originally stood, upon the roll it applied solely to physicians and that the word surgeons for some reason or other had since been interpolated) through 32nd Henry VIII., c. 42 uniting the barbers and surgeons into one whole body corporate, through the Charter of 5th Charles I. granted to the surgeons and through 18th George II., c. 15 whereby the surgeons became incorporated and of which incorporation the Royal College of Surgeons is the direct successor, and through other Acts prior or subsequent thereto. He argued that from these documents, taken together with those cited by the plaintiffs, it appeared that there was the faculty of medicine as distinguished from the faculty of surgery, and he urged, and with force, that these two faculties from the earliest times had run upon totally different lines, and he urged that physicians had nothing to do with surgeons. He pointed out what I think was the fact, that although the College of Physicians from the year 1582 held lectures in surgery called Lumleian lectures that although their examinations prior to 1835 were 'In primis comities in parte Medicina Physiologica in secundis in parte Pathologica in tertius in parte Theurapentica'—which, Dr. Liveing said was as much in surgery as medicine, and since that date embraced the obstetric art and principles of surgery yet it was not till the year 1862 that the first real effective examination in surgery itself was made by the plaintiffs, who then called to their assistance Mr. Erichsen to examine, and since then they have ever had an eminent surgeon to aid them in the examination in surgery of those of their students whom they examined themselves. I should mention that since 1864 the plaintiffs in conjunction with the Royal College of Surgeons have held joint examinations of those students who had commenced their studies since that date, and these examinations still continue. Sir H. Davey argued that the construction placed by the Solicitor General upon Section 3 of the 32nd Henry VIII., c. 40 was erroneous. I incline to the opinion that Sir Horace Davey placed the correct construction upon this section when he insisted that the privileges granted by it were confined to the "company or fellowship of Physicians" which he read

as equivalent to "commonalty or fellows" of that body. But be this as it may, it does not affect the point as to whether the plaintiffs could grant a diploma in medicine and surgery. I think, too, that he was correct when he said that surgeons and physicians had run in distinct lines from the earliest time. But this is not what I have to decide. The point is, were the plaintiffs a Medical Corporation in 1886 legally qualified to grant a diploma in respect of medicine and surgery? The Solicitor General's reply to the argument of Sir H. Davey appears to me conclusive. He said, "For the purposes of this case, I accept Sir H. Davey's reading of the section, for he admits that the plaintiffs could grant a diploma to their commonalty or Fellows, to practise in medicine and surgery, and," said the Solicitor General, "that is all that is required, for this brings the plaintiffs within the exact terms of the Act—viz., a Medical Corporation legally qualified to grant diplomas in respect of medicine and surgery." He said, "whether physicians and surgeons ran in different grooves did not affect the point to be determined." In my judgment the Solicitor General is right when he says, "Once got the Corporation legally qualified to grant the diploma, and then they are the persons who are designated by the statute to hold the examination." This argument appears to me to be unanswerable. It has been established that the plaintiffs were at the date of the passing of the Act of 1886 a corporation legally qualified to grant diplomas in respect of medicine and surgery, and that in my judgment concludes this case. For these reasons, in my opinion, the plaintiffs are right and are entitled to judgment and the declaration asked for, and they must have the costs of the action.

Sir H. Davey, Q.C., asked what would be the terms of the declaration.

Sir Arthur Watson, Q.C., thought they should be in the words of the statement of claim.

Sir H. Davey. All we want is that the plaintiffs themselves are a Medical Corporation legally qualified to grant diplomas in medicine and surgery.

Sir A. Watson. There is no objection.

Sir H. Davey. The statement of claim is rather aggressive in its tone. You do not ask for an injunction.

Sir A. Watson. After what Sir Horace Davey has said, I cannot imagine as to the body he represents that that course would be necessary.

Lord Justice Smith. It was merely a friendly suit, I take it.

Sir A. Watson. Then, my lord, the declaration, with liberty to apply?

Lord Justice Smith. Very well. I have no doubt these gentlemen will do what is right.

Judgment accordingly.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

At an ordinary meeting of the Council of the College held on Thursday, the 9th inst., the President, Mr. Thomas Bryant, occupied the chair.

The Secretary reported the death, on Jan. 12th last, at the age of seventy-eight, of Mr. Alfred Baker, past member of the Council, and the Council unanimously recorded their deep regret at the death of one whom they highly esteemed, both as a colleague and as a member of the profession, and expressed their sympathy with his widow and family in their bereavement.

The Council elected Mr. H. P. Dean an examiner in Elementary Biology under the Combined Examining Board in England.

The following resolution was carried *nem. con.* At a meeting of the Council of the Royal College of Surgeons of England, held on the 9th inst., it was resolved "that it is degrading to the profession and injurious to the public interest that Fellows or Members of the College should associate themselves with trading institutions for the treatment of disease and allow their names to be advertised in support of the practice of medicine and surgery by persons not legally qualified."

It was resolved unanimously that a marble bust of the late Sir Richard Owen, K.C.B., be obtained at a cost not exceeding 200 guineas.

A letter from Sir Ralph Thompson, K.C.B., in reference to

the arrangements for the Army Medical Examinations, was read and entered on the minutes.

The best thanks of the Council were given to Mr. W. Hunter Bailie for his present of John Hunter's consulting table.

It was proposed by Mr. Hulke, and seconded by Mr. Macnamara, and agreed to "That the Council, having learned that it is proposed, under the control of the London County Council, to open the gardens of Lincoln's Inn fields to the public, request the President and Vice-Presidents to put themselves in communication with the promoters of the Bill, with the object of securing the insertion of such conditions as they may think desirable."

Medical News.

EDINBURGH UNIVERSITY—The following gentlemen received the degrees of M.B., C.M., on Jan. 28th, 1893:

Joseph P. S. Barboza, Edinburgh (or Madras); John W. Craig, Castle Douglas; Samuel Davidson, Edinburgh; Robt. B. Gass, Durham; Geo. S. S. Hirst, Cambridge; Habeeb H. Khayatt, Assiout, Egypt; Henry C. Lloyd Melbourne, Australia; Thomas G. Macormack, Edinburgh; Ernest C. Quertier, Guernsey; George P. Richards, Herefordshire; Fred W. J. Stephenson, Blackburn, Lancashire; Arthur H. H. Vizard, Halifax, Nova Scotia.

FOOTBALL CASUALTIES—During a game at Newry, Armagh, on the 25th ult., a player fractured his leg. A young man of East Dereham has died from lockjaw, caused by injuries sustained whilst playing in a match a few days since.

MEDICAL MAGISTRATES—Dr. Henry C. March of Rochdale has been placed on the Commission of the Peace for that borough. The following gentlemen have been appointed Justices of the Peace for the county of Aberdeen:—Dr. Wm. Alexander of Tarland, Brigade-Surgeon Lieutenant-Colonel Wm. Johnston, M.D. Edin., of Newton Dee, Murtle; Dr. David Mavor of Buxburn; Dr. P. Mitchell of Old Rain, Inch; Dr. J. Reid of Dinnet; and Dr. Wm. L. Ross of Cuminstown, Monquhitter.

DR. CECCARELLI'S WILL—Of the eight hundred thousand francs (£32,000) left by the Pope's late physician, about one half has been bequeathed to the commune of Rome, to be invested and the interest devoted to the institution of beds in the hospitals of the city for the sick Roman poor. Dr. Ceccarelli, besides, has left to the hospital at Velletri his rich medical library and his splendid "armamentarium chirurgicum," comprising the instruments he himself invented. The library and "armamentarium" are valued at forty thousand francs (£1600).

OPHTHALMIA AMONG CHILDREN—At their meeting on Tuesday last the members of the Central London School District came to an important decision in respect of this subject. The success of the means adopted by the managers of the Hanwell school, founded for the treatment of ophthalmia, has induced them to receive within their partially occupied buildings children affected with the disease from any parish within the metropolitan Poor law area for a period of two years. After that time shall have expired it is expected that another body will be elected to control the management of the establishment.

THE METROPOLITAN PUBLIC GARDENS ASSOCIATION—Few public movements designed to improve the condition of the poorer classes of the metropolis are more worthy of support than that named in the heading of this paragraph. The work already accomplished by this Association is set forth in its tenth annual report, by which it will be seen that its operations have been fraught with widespread advantages to the inhabitants of the metropolis, especially to those who are compelled to live in close and, for the most part, squalid neighbourhoods. The opening of a large number of playgrounds, the improving of commons, the planting of trees in thoroughfares, the provision of seats for weary pedestrians, and the erecting of fountains for thirsty travellers have been some of the results of the labours of the Society's executive. Nothing more need be said to strengthen the appeal which the Earl of Meath has published in the newspaper press on behalf of the Association over which he presides. It should not be difficult in a wealthy city like London to raise the comparatively trifling sum (£4000) required to carry on the work which has been so successfully begun.

THE INTER-HOSPITAL FOOTBALL MATCH—In the match for the final tie for the Rugby Union Inter hospital Challenge Cup played at Richmond on Thursday, March 9th, between Guy's and St Thomas's Hospitals, the St. Thomas's team were the victors by eight points to five, thus winning the cup five years in succession. The match was very close and interesting.

MISSION TO DEEP-SEA FISHERMEN—To awaken increased interest in this movement it has been announced that a lecture will be delivered by Mr W. T. Grenfell, M.R.C.S., at the Vestry Hall, Hampstead, on Monday next, at 7 P.M. The chair will be taken by Mr Frederick Treves. The lecturer will describe the incidents connected with his recent cruise in the *Albert* Hospital Mission vessel to Newfoundland and Labrador, and the lecture which will be illustrated by lime-light views, will no doubt prove of considerable interest.

LIÈGE MEDICAL STUDENTS—The medical students of the University of Liège have formed a society for visiting patients who after their discharge from the hospital are in indigent circumstances, the students' object being to take them meat, wine and nourishing articles of diet and to supply them with creature comforts as well as to cheer them by their visits, so that convalescence may be hastened. Many charitable persons are assisting the society to obtain what is required, and a concert is being organised for its benefit with 450 performers.

FUNERAL REFORM—The Rev. Rabbi Adler took this subject for an address delivered at the monthly meeting of the Funeral Reform Association, Canon Barker presiding. The methods adopted by the lecturer and his co-religionists in consigning their dead to the grave were described, the prominent feature of such procedures being the punctilious regard to cleanliness observed by the Jews. The ancient custom was to bury in the earth without the use of coffins. No corpse was allowed to remain above ground for more than two days. No second interment was permitted in the same grave. As with all religious ceremonies amongst the Jews, the mourners at the grave-side remain covered.

THE MEDICAL SOCIETY OF LONDON—The annual dinner of the Medical Society of London was held in the Whitehall Rooms of the Hôtel Métropole on the 8th inst., Mr Hutchinson, President, being in the chair. A large number of Fellows were present and amongst the guests were several well known members of the profession in London. The feature was the appearance of the Presidents of several of the provincial medical societies. After the loyal toasts, "The Success of the Medical Society of London" was proposed by the President. At the conclusion of his speech he presented Dr Gowers with the Fothergillian Gold Medal and prize for the excellence of his contributions to medical literature, which was awarded by the vote of the Council. This is the first occasion in the history of the Society upon which this prize has been adjudicated in this manner and given as it were without competition or without the sending in of names or theses. The action of the Council was enthusiastically endorsed by the Fellows present. Dr Douglas Powell proposed the health of the incoming president, Dr Bristowe. During the course of the evening songs by Dr Frederick Roberts and Dr Samuel West were highly appreciated.

BEQUESTS AND DONATIONS TO HOSPITALS—The late Mr John Hale of Liverpool bequeathed his personal estate, amounting to between £2000 and £3000 in trust for the equal benefit of the Royal Infirmary, the Royal Southern Hospital and the Northern Hospital, Liverpool.—Mrs Phoebe S. Croker, late of Lavenham, bequeathed £100 to the Suffolk General Hospital.—Miss Mary E. Lumby, late of Halifax, bequeathed £100 to the Halifax Infirmary.—The late Miss Jane Boyd of Wallacetown, Ayr, bequeathed £100 to the Ayr County Hospital.—Mrs Frances S. Cary, late of Southampton, bequeathed £100 to the Royal South Hants Infirmary.—Mr Thomas F. Maddock, late of Chester, bequeathed £100 to the Chester Infirmary.—The late Miss M. C. Summs of Clevedon bequeathed £500 to the Royal Dispensary, Bartholomew-close, London.—The Grocers' Livery Company has made a grant of £50 to the Hospital for Epilepsy and Paralysis, Regent's Park.—The Treasurer of the Manchester Hospital for Consumption has received £500 from the executors of the late Mr James Chadwick.—The late Dr Thomas Hawksley of Chertsey bequeathed £500 to King's College Hospital, £200 to the Medical Benevolent Fund and £100 to the Medical Benevolent College at Epsom.

NOTES IN PARLIAMENT

On going into Committee of Supply on the Army Estimates Mr Lockwood has, we learn from *The Times*, expressed his intention to move for a select committee to inquire into the refusal of the Horse Guards to reinstate Mr Briggs, who resigned his commission in the army in order to be at liberty to give evidence in the Connemara case. On March 22nd, last year Mr E. Stanhope, in reply to a question in the House, expressed his opinion that Mr Briggs should not suffer loss of promotion on account of an act which he was bound to perform and stated that he would therefore be restored to the seniority he formerly held. Subsequently however a letter appeared in a Service journal giving an account of the matter which Mr Briggs held to be unfair and to which he therefore replied in the same journal. This reply appears to have been regarded by the authorities as in some way a breach of discipline and he was accordingly informed that unless he withdrew certain statements in his reply and publicly apologised, his reinstatement would not be permitted. Mr Briggs in his defence reminded the authorities that as his commission had not been gazetted he was not subject to military discipline. He added that he could not withdraw his letter as by doing so he would be practically acknowledging that the statements contained therein were untrue. He was however, willing to express his deep regret if he had unconsciously used words which might be understood as conveying unwarrantable imputations upon anyone and was ready to apologise for them. Some further correspondence has passed between Mr Briggs and the War Office but it is understood that the latter refuse to reopen the question.

The Sale of Food and Drugs

Dr Cameron has introduced a Bill to Amend the Sale of Food and Drugs Act (1875) and the Margarine Act (1857). It provides that the former Act shall apply to and include every wholesale trader or manufacturer of any article of food or drug who shall sell to the prejudice of the purchaser any article of food or drug which is not of the nature, substance and quality demanded. Another clause amends the Act of 1875 by omitting the word "written" before the words "warranty to that effect." A third deals with the mixture of chicory and coffee and a fourth defines what proportion of water in butter shall constitute adulteration.

New Hospital for Poor Sick Jews.

Sir John Kennaway asked the Under-Secretary of State for Foreign Affairs whether he would make inquiries through Her Majesty's Ambassador at Constantinople, as to the reason of the long delay in granting the firman applied for for the erection of a new hospital for poor sick Jews on the Jaffa road, outside the walls of Jerusalem, for which a site had been purchased and £5000 provided to begin the building and whether Her Majesty's Secretary of State for Foreign Affairs would move Sir Clare Ford to use his best endeavours to facilitate and expedite the granting of the firman.—Sir Edward Grey replied that this matter was receiving the attention of Her Majesty's Ambassador at Constantinople.

Glanders and Farcy in London

Mr Edward H. Bayley asked the President of the Board of Agriculture whether, in view of the alarming increase of glanders and farcy in London upwards of 2000 cases having occurred in 1893 being 90 per cent. of the cases in the country generally and the fact that glanders and farcy are contagious as regards human beings as well as horses, he would take measures to stamp out the disease by means of a system of inspection of stables and compulsory slaughter of infected horses, with or without compensation of owners.—Mr Herbert Gardner, in reply referred to the order he issued recently and intimated that the number of outbreaks recorded since the commencement of the present year was less than in the corresponding period of 1892. There was no cause whatever for alarm on the subject, but he was carefully watching the operation of the new order with a view to determine whether any further action on his part was necessary.

Small-pox and Vaccination.

In reply to a question put by Mr Hopwood Mr Campbell Bannerman stated that five militiamen at Halifax were attacked with small pox and were removed to civil hospitals and the troops were confined to barracks for three days. None of the men attacked had been revaccinated. He had been advised by the medical authorities that vaccination and revaccination acted as a sure prevention to small pox but he did not regard himself as an authority on the matter. The subject was also referred to on the 3rd inst., when, in reply to another question by Mr Hopwood Sir Walter Foster said he had been informed by the guardians of the Wigton Union that a fatal case of small pox had occurred at the workhouse on Feb 3rd, and that the medical officer deemed it necessary under the circumstances that a child who occupied a ward close to that in which the small pox patient had died should be vaccinated. The mother however objected, but the operation was ordered by the guardians to be performed. In the opinion of the Local Government Board it was not legal for the

children of inmates of a workhouse to be submitted to vaccination if the parents objected

Hemp Drugs in Bengal.

On this subject Mr. Caine put a question to Mr. G. Russell, who said that the Secretary of State had proposed to request the Viceroy to appoint a Commission to inquire into the cultivation and trade in hemp drugs and would be glad if the result of the inquiry would be to show that further restrictions could be placed upon the sale and consumption of those drugs. Instructions would be given to ensure that the inquiry by the Commission, which would be composed in part of non-official natives of India, should be as complete as possible, but the methods of procedure were to be left to the discretion of the Commission. Mr. G. Russell moreover, stated, in reply to another question put to him that it was not contemplated that the Commission should deal with the opium question.

Cholera Hospitals (Ireland) Bill.

Mr. J. Morley introduced a Bill to enable sanitary authorities in Ireland to take possession of land for the erection of temporary cholera hospitals. The Bill was subsequently read a second time.

Medical Officers and Public Bodies.

On the 3rd inst. in answer to Mr. Weir, Mr. Shaw Lefevre said he had been wrongly reported in the press as having come to an adverse opinion on the subject of the ventilation of the House of Commons. In consequence of the recommendations of the Committee appointed for the purpose great improvements had already been effected.

Dresden Sanitary Conference.

On the 6th inst. Sir E. Grey stated in reply to a question put by Mr. J. W. Lowther that Her Majesty's Government had consented to take part in the Dresden Conference which was expected to meet on the 11th inst. The British representatives would be Mr. Strachey, the Minister Resident at Dresden, and Dr. Thorne Thorne of the Local Government Board, assisted by Mr. Farnall of the Foreign Office.

The Health of our Troops in India.

Mr. G. Russell, in answer to a question by Mr. Caine, said that the rate of admissions to hospital from venereal diseases per 1000 of strength in 1890 (the last year for which complete statistics had been received) was—British troops, 503.5, native troops 41.1.

Tuberculosis.

On the 7th inst. Mr. W. Whitelaw asked for the number of cases of tuberculosis in home-bred cattle whose carcases were condemned last year on account of tuberculosis. Mr. G. A. Innes expressed his inability to supply the information asked for.

Pleuro-Pneumonia.

Mr. Maartney called attention to the subject of the introduction of this disease into the United Kingdom by the importation of foreign cattle, and moved a resolution to the effect that no foreign animal, with certain exceptions, having been allowed to be landed, should be suffered to leave the wharf alive. The resolution was discussed at considerable length. The Solicitor General pointed out that if the stipulation of the Act of 1873 were reasonably satisfied no danger of such importation would arise. Mr. Gardner said the resolution was opposed to the general principle of free trade and he hoped the House would reject it. Mr. Chaplin supported the resolution. He said we had now arrived within a measurable distance of being quite free from pleuro-pneumonia in the future, but in order to attain this object it was essential that all animals arriving in this country should be immediately slaughtered. The resolution was rejected by a majority of 180 against 151.

Public Health.

On the 8th inst. Sir H. Roscoe brought in a Bill to amend and extend the Public Health (London) Act, 1891.

The Sanitary Condition of Thames Tugs.

Mr. Havelock Wilson asked the President of the Local Government Board whether he was aware that the medical officer of the port of London had declared that in many cases the tug boats on the River Thames were in an insanitary condition, particularly with regard to the source of drinking water which was taken from the river and which he described as a most dangerous proceeding, and what steps could be taken to prevent the development of disease among the floating population through this practice. Mr. Fowler replied that he had communicated with the Medical Officer of the Port of London on the subject of this question and he informed him that there was some foundation for the report as to the insanitary condition of some of the steam tugs on the Upper Thames, although it could not be said that generally they were in a bad state. He was making a close and careful inspection of these tugs and was requiring that defects should be remedied. In the case of any tug where it was known that water had been obtained from the river, the medical officer insisted upon the emptying of the water vessels and after warning the master of the tug as to the danger communicated with the owners with the view to such instructions being given as would prevent the use for drinking purposes of water taken direct from the river.

The Proposed Fever Hospital at Tooting.

Mr. Fowler in reply to a question put by Mr. Kimber, informed him that the experienced inspectors who conducted the inquiry as to the proposed fever hospital acted in accordance with the practice of the Local Government Board and he saw no reason for interfering with their discretion. The inquiry was limited to the proposal to acquire a specified site and such an inquiry could not properly have been extended to other sites in respect of which there was no proposal of the Managers of the Metropolitan Asylum District before the Local Government Board and with regard to which no notice had been given to those interested in the localities where the sites were situated. Any information that could be given as to sites which were available for hospital purposes, and which were considered to be more suitable than the site in question, should be submitted in the first instance to the Asylum Managers and he should be prepared to receive and consider a copy of any communication which might be addressed to the Managers on the subject.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 8 o'clock on the Thursday morning of each week for publication in the next number.

ALLOTT, JAS. H. L. M.B. CM. Edin., has been appointed Honorary Surgeon to the Beckett Hospital and Dispensary, Barnsley.
BLACKHAM, ROBERT J., L.R.C.P., L.R.C.S.E., L.F.P.S. Glasg., L.M. (Rotunda Faculty), has been appointed Physician to the Sidcup Hospital, London S.E.
BLAKISTON, A. A., M.R.C.S., has been reappointed Medical Officer of Health for the Borough of Glastonbury.
BROWN, STANLEY M., M.R.C.S., L.R.C.P. Lond., has been appointed Junior House Surgeon to the Salford Royal Hospital, vice Newby, appointed House Surgeon.
BURNETT, J. E., M.B., CM. Edin., M.R.C.S., has been appointed House Physician to the Hospital for Consumption and Diseases of the Chest, Brompton.
CALLAGHAN, THOS., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed an extern Physician to the Cork Fever Hospital.
COPPE, F. B., L.R.C.P., L.M., L.R.C.S. Irel., has been appointed Medical Officer to the Dublin Commercial Medical Aid Association.
COLMER, P. A., L.S.A., has been appointed Honorary Medical Officer to the Yeovil District Hospital, vice Garland, resigned.
DOVELAN, JOHN O'CONNOR, Lic. & L.M. R.C.S. & R.C.P. Irel., M.P.C., has been appointed Assistant Medical Officer to the Richmond District Lunatic Asylum, Dublin.
DUNCAN, R. B., M.B., B.S. Durh., has been appointed Visiting Medical Assistant to the Newcastle-on-Tyne Dispensary.
GILES, ARTHUR E., M.D., B.Sc. Lond., M.B. Ch.B. Vict., M.R.C.P., M.R.C.S., has been appointed Physician Accoucheur to the St. Pancras and Northern Dispensary, Euston road, N.W.
HASLAM, W. ARTHUR, L.R.C.P. Lond., M.R.C.S., has been appointed Junior House Surgeon to the London Temperance Hospital, Hampstead road.
HINE, ALFRED, ERNEST, M.R.C.S., L.R.C.P. Lond., has been appointed Resident Obstetrical Officer to the Charing-cross Hospital.
HUNTER, W. L., M.D. Dub., B.Ch., D.P.H. Eng., has been reappointed Medical Officer for the Third Sanitary District of the North Derbyshire Union.
KARKEK, P. C., M.R.C.S., has been reappointed Medical Officer of Health for St. Marychurch, Torquay.
MENZIES, JAS., L.R.C.P., L.M., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of Health to the Shireoaks Sick Club, Worksop.
MOORE, SAMSON G., M.B., B.S. Victoria Univ., has been appointed Assistant Port Sanitary Medical Officer, Liverpool.
NEWBY, GERVAISE E., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon to the Salford Royal Hospital, vice Heywood, resigned.
PRATT, JOHN W., L.R.C.P., L.M. Edin., M.R.C.S., has been reappointed Medical Officer of Health for the Wellescombe Urban Sanitary District of the Wellington Union.
RAW, NATHAN M.D., B.S. L.S. Sc., Senior House Surgeon, Bolton Infirmary, has been appointed Medical Superintendent of the Dundee Royal Infirmary, vice M. Coak, resigned.
RICE, B. M.D. Lond., M.R.C.S., has been appointed Police Surgeon for the Borough of Leamington.
SAYAGE, THOMAS M.D., M.R.C.P. Lond., F.R.C.S. Eng., has been appointed Professor of Gynecology in Mason College, Birmingham, vice Tait, resigned.
SEGUNDO, CHAS. SEMPILL DE, L.R.C.P. Lond., M.R.C.S., has been appointed House Surgeon to the London Temperance Hospital, Hampstead road.
TAILOR, JAMES M.A. Edin., M.B. MD., M.R.C.P. Lond., has been appointed Assistant Physician at Queen's Square Hospital.
WEBB, C. F. M.D. Durh., F.R.C.S. FRCP. Edin., M.R.C.S., has been reappointed Medical Officer of Health for the First Sanitary District of the Basingstoke Union.
YOUNG, E. H., M.D. Durh., L.R.C.P. Lond., M.R.C.S., D.P.H., has been reappointed Medical Officer of Health for the Oakhampton Rural and Urban Sanitary Districts.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BLACKBURY AND EAST LANCASHIRE INFIRMARY.—Junior House Surgeon. Salary £50 per annum with board, lodging, washing &c.
BOARD OF WORKS for the POPLAR DISTRICT.—Medical Officer of Health for the Poplar and Bromley parishes. Salary £400 per annum. Apply to the Clerk to the Board of Officers, 117 High street, Poplar.
CANCER HOSPITAL (FREE) Fulham road S.W.—House Surgeon for six months. Salary at the rate of £50 per annum, with board and residence.
DENTAL HOSPITAL OF LONDON, Leicester square.—Assistant Anaesthetist.
EVELINA HOSPITAL FOR SICK CHILDREN, Southwark bridge-road, S.E.—Surgeon to Out-patients.
FARRINGTON GENERAL DISPENSARY, Bartlett's buildings, Holborn circus, E.C.—Surgeon.
GENERAL HOSPITAL, Birmingham.—Assistant Surgeon for three years. Honorarium £100 per annum.
GENERAL HOSPITAL, Birmingham.—Pathologist (non resident). Salary £120 per annum.

GENERAL HOSPITAL, Birmingham—Assistant House Surgeon for six months Residence, board and washing provided
HARTLEPOOL HOSPITAL—House Surgeon Salary £60 per annum with board, lodging and washing
LIVERPOOL ROYAL INFIRMARY—Honorary Laryngologist and Honorary Dermatologist
LONDON COUNTY ASYLUM, Claybury Woodford, Essex—Second Assistant Medical Officer Salary £180 per annum rising £10 a year to £230 with board lodging and washing Apply to the Clerk to the Asylums Committee Office 21, Whitehall place S W
MANCHESTER ROYAL INFIRMARY (Monsall Fever Hospital)—Assistant Medical Officer at Monsall Fever Hospital (unmarried) for twelve months Salary £100 per annum with board and residence.
MASON'S COLLEGE, Birmingham—Co-Professorship of Surgery
METROPOLITAN HOSPITAL, Kingsland road N E—House Physician for six months Salary at the rate of £60 a year
METROPOLITAN HOSPITAL, Kingsland road, N E—House Surgeon for six months Salary at the rate of £60 a year
METROPOLITAN HOSPITAL, Kingsland road, N E—Assistant House Surgeon for six months
ROYAL COLLEGE OF PHYSICIANS, Pall mall East, S W—Milroy Lecturer
ROYAL HOSPITAL FOR DISEASES OF THE CHEST City road E C—House Physician for six months Salary at the rate of £40 per annum and board and lodging
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN Marylebone road N W—Two Physicians to the Out-patient department
SEAMEN'S HOSPITAL SOCIETY DREADNOUGHT—Senior and Junior House Surgeons for Branch Hospital, Royal Victoria and Albert Docks, E. Salaries £75 and £50 per annum, with board and residence. Apply to the Secretary Seamen's Hospital Society Greenwich, S E
SHEFFIELD CHILDREN'S HOSPITAL, East-end Branch—Resident House Surgeon Salary £70 with board lodging and washing
ST. PETER'S HOSPITAL FOR STONE AND URINARY DISEASES &c Henrietta street Covent-garden—House Surgeon for six months Honorarium 25 guineas board lodging and washing
ST. MARLEBONE GENERAL DISPENSARY 77 Welbeck street, W—An additional Honorary Surgeon
ST. MARLEBONE GENERAL DISPENSARY 77 Welbeck street, W—An additional Honorary Physician
SOUTH DEVON AND EAST CORNWALL HOSPITAL, Plymouth—Assistant Secretary Salary £150 per annum
ST. AUSTELL UNION Cornwall—Medical Officer for the Union Workhouse. Salary £15 per annum exclusive of certain fees &c.
STOCKPORT INFIRMARY—Assistant Medical Officer Salary £70 with board and residence
WESTBOURNE PROVIDENT DISPENSARY Harrow road—Medical Officer Applications to be sent to the Secretary 27 Westbourne park crescent, W
WORCESTER GENERAL INFIRMARY—House Surgeon for three years Salary £100 per annum, with board and residence

METEOROLOGICAL READINGS

(Taken daily at 8.50 a.m. by Steward's Instruments.)

THE LANCET Office, March 9th 1893.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radiation Vaino.	Max. Temp. in Shade.	Min. Temp.	Rain-fall.	Remarks at 8.50 A.M.
Mar 3	30.30	S W	45	43	55	50	43	.04	Raining
" 4	30.16	S W	60	49	68	56	44	.05	Overcast
" 5	30.26	S W	47	45	76	57	42		Cloudy
" 6	30.35	W	44	44	63	54	43		Overcast
" 7	30.35	W	44	43	81	56	42		Hazy
" 8	30.33	N W	47	44	57	61	43		Hazy
" 9	30.23	S W	43	42	69	62	42		Foggy

Medical Diary for the ensuing Week.

Monday, March 13.

KING'S COLLEGE HOSPITAL—Operations, 2 P.M., Fridays and Saturdays, at the same hour
ST. BARTHOLOMEW'S HOSPITAL—Operations 1.30 P.M. and on Tuesday, Wednesday Friday, and Saturday at the same hour
ST. MARK'S HOSPITAL—Operations 2 P.M. Tuesday 2.30 P.M.
ST. THOMAS'S HOSPITAL—Ophthalmic Operations, 2.30 P.M. Friday 2 P.M.
ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS—Operations, daily at 10 A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL—Operations, 1.30 P.M. and each day at the same hour
CHELSEA HOSPITAL FOR WOMEN—Operations 2 P.M. Thursday, 2 P.M.
HOSPITAL FOR WOMEN, SORO-SQUARE—Operations 2 P.M., and on Thursday at the same hour
METROPOLITAN FREE HOSPITAL—Operations 2 P.M.
ROYAL ORTHOPEDIC HOSPITAL—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL—Operations, 2 P.M., and each day in the week at the same hour
UNIVERSITY COLLEGE HOSPITAL—Ear and Throat Department, 9 A.M. Thursday, 9 A.M. Eye Department 2 P.M.
THROAT HOSPITAL (Golden-sq.)—5 P.M. Dr R. Norris Wolfenden Treatment of Aphonia &c.
MEDICAL SOCIETY OF LONDON—8.30 P.M. Mr Bruce Clarke The Treatment of Lupus of the Face by Free Removal and Skin grafting with Large Flaps—Mr W. H. Battle Two cases of Abdominal Section for Tumours which presented unusual characters.

Tuesday, March 14.

GUY'S HOSPITAL—Operations 1.30 P.M. and on Friday at the same hour
Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.
CANCER HOSPITAL, BROMPTON—Operations 2 P.M. Saturday, 2 P.M.
WESTMINSTER HOSPITAL—Operations 2 P.M.
WEST LONDON HOSPITAL—Operations 2.30 P.M.
UNIVERSITY COLLEGE HOSPITAL—Skin Department, 1.45, Saturday, 9.15
ST. MARY'S HOSPITAL—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M.
Throat Department, Tuesdays and Fridays, 1.30 P.M. Electrotherapeutics same day 2 P.M.
ROYAL INSTITUTION—3 P.M. Prof V. Horsley The Brain.
ROYAL COLLEGE OF PHYSICIANS—5 P.M. Dr W. D. Halliburton The Chemical Physiology of the Animal Cell. (Goulstonian Lecture)
ROYAL MEDICAL AND CHIRURGICAL SOCIETY—Mr Thomas Bryant Case of Fibrous Polypus of the Prostatic Portion of the Urethra associated with Profuse Hematuria and Prostatic Enlargement Removal of Growth and Recovery—Dr Donald W. C. Hood An Inquiry into the Etiology of Rotheln (German Measles).

Wednesday, March 15.

NATIONAL ORTHOPEDIC HOSPITAL—Operations, 10 A.M.
MIDDLESEX HOSPITAL—Operations, 1.30 P.M., Saturday 2 P.M. Obstetrical Operations, Thursdays, 2 P.M.
CHARING CROSS HOSPITAL—Operations, 3 P.M., and on Thursday and Friday at the same hour
ST. THOMAS'S HOSPITAL—Operations 1.30 P.M., Saturday same hour
LONDON HOSPITAL—Operations 2 P.M., Thursday and Saturday, same hour
ST. PETER'S HOSPITAL, COVENT-GARDEN—Operations 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN—Operations, 2.30 P.M.
GREAT NORTHERN CENTRAL HOSPITAL—Operations 2 P.M.
UNIVERSITY COLLEGE HOSPITAL—Operations 1.30 P.M. Dental Department, 9.30 A.M. Eye Department 2 P.M.
ROYAL FREE HOSPITAL—Operations 2 P.M. and on Saturday
CHILDREN'S HOSPITAL, GREAT ORMOND STREET—Operations 9.30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.
THROAT HOSPITAL (Golden sq.)—5 P.M. Mr T. Mack Hovell Adenoid Vegetations of the Naso-pharynx.
EPIDEMIOLOGICAL SOCIETY OF LONDON—8 P.M. Dr Patrick Manson African Hemoglobinuric Fever
ROYAL MICROSCOPICAL SOCIETY—8 P.M. Dr G. M. Giles Cystic Worms simulating the appearance of Tuberculosis—Dr A. Stokes New Brackish Water Infusoria from the United States.—Surgeon V. G. Thorpe Rotifera of China.

Thursday March 16.

ST. GEORGE'S HOSPITAL—Operations 1 P.M. Surgical Consultations, Wednesday 1.30 P.M. Ophthalmic Operations, Friday 1.30 P.M.
UNIVERSITY COLLEGE HOSPITAL—Operations, 2 P.M. Ear and Throat Department, 9 A.M. Eye Department, 2 P.M.
ROYAL SOCIETY—Prof Virchow will deliver the Croonian Lecture in the Theatre of the London University at 4.30 P.M.
ROYAL COLLEGE OF PHYSICIANS—5 P.M. Dr C. Theodore Williams Aero-therapeutics in Lung Diseases. (Lumleian Lecture).
HARVEIAN SOCIETY—8.30 P.M. Dr H. A. Caley A case of Simple Ulcerative Colitis.—Mr Treves A Series of cases of Relapsing Typhilitis

Births, Marriages and Deaths.

BIRTHS

CALLAGHAN—On March 3rd at Brookfield, Colyton Devon the wife of James Lealie Callaghan, L.R.C.P.E. L.R.C.S.I. of a daughter
COBOLD—On March 4th at The Elms Bathaston Bath the wife of C. Spencer Cobbold, M.D., F.R.C.P. Edin., M.R.C.S. Eng., premature of a son
COSEY—On March 5th, at Oxford terrace, the wife of Charles H. Cosens M.R.C.S. L.R.C.P. of a son
CROSSFIELD—On March 3rd, at Broadstone House Dartmouth, the wife of A. Kyffin Crossfield, L.R.C.P. of a daughter
DUNLOP—On March 3rd at Stafford street Edinburgh the wife of James Craufurd Dunlop, F.R.C.P.E., of a son

MARRIAGES

ADDISON-RIGG—On March 1st, at Christ Church Crouch-end W B Addison B.A. Canlab. M.B.C.S. L.R.C.P. of Terterton Kent, to Edith youngest daughter of the late Richard Rigg of Crouch-end.
BARNETT-FULTON—On the 31st December 1892, at "Pavenscliffe" West Taleri N Zealand Louis Edward Barnett, M.B., F.R.C.S. of Dunedin third son of A. A. Barnett of Wellington to Mabel Violet, youngest daughter of the late St. James Fulton of the Taleri.
FOOTE-JESSETT—On the 22nd inst. at St. Peter's Eaton square by the Rev T. W. Hardy, M.A. vicar of Echin, Kent assisted by the Rev R. Armitage M.A. chaplain to the Military Chapel Wellington Barracks Captain Henry Bruce Foote R.A. son of R. Bruce Foote of Yercaud Madras, to E. Jeanie Jessett, daughter of F. Bowtman Jessett, F.R.C.S. of 1, Buckingham Palace Mansions, S.W.
LEWIS-VETTERLEY—On March 2nd at Bromley Common Baptist Church, Frank Benjamin Lewis L.R.C.P. L.R.C.S. L.S.A. eldest son of Thomas Lewis to Bessie, eldest daughter of Thomas James Ivery Neale of Bromley Kent.
REICHERDT-ATKINS—On March 4th, at St. Nicholas Church Sutton Freres Noel Reichardt M.B. London of Dorset House Ewell Surrey to Mary Elizabeth Jessie eldest daughter of F. D. Atkins Esq. M.B.C.S. Chalk Pit House, Sutton Surrey

DEATHS

MURRAY—On March 3rd at 67, Ferme Park road Hornsey, Daniel Murray B.A., aged 73 years.
O'BRIEN—On Feb 25th at the Villa Alberti, Florence Richard Alfred O'Brien, M.D. late of Hong Kong

R.B.—A fee of 5s. is charged for the Insertion of Notices of Births Marriages and Deaths.

Friday, March 17

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Eye Department, 2 P.M.
CANCER HOSPITAL (Fulham road, S.W.)—4 P.M. Mr F Bowreman
Jessett Uterine Carcinoma and its Treatment.

Saturday, March 18.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and Skin De-
partment 9 15 A.M.

Notes, Short Comments & Answers to Correspondents.

EDITORIAL NOTICE

It is most important that communications relating to the Editorial business of THE LANCET should be addressed exclusively "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office

Lectures, original articles, and reports should be written on one side only of the paper

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub Editor"

Letters relating to the publication, sale and advertising departments of THE LANCET should be addressed "To the Publisher"

We cannot undertake to return MSS not used

THE POWER OF THE CORONER AND POST MORTEM EXAMINATIONS

A CORONER, at a recent inquest at Newnham on Severn, expressed him self very strongly in respect of the husband of the deceased having refused to permit a post-mortem examination which he had ordered. He sympathised with the husband, but intimated that if he persisted he would have to send him to gaol. The poor man immediately saw his error, and said he had no intention of defying the law

L.D.S.—The question whether a dental surgeon by virtue of his licentiate-ship has a right to administer nitrous oxide gas has not yet been thoroughly determined. In case of a death of course a coroner's inquest would have to be held. In the case of an unqualified though registered, dentist his position is very different and far graver than that of the L.D.S. We do not hesitate for a moment in saying that no person other than a registered medical practitioner ought to administer any of the more dangerous anesthetics—such as ether, chloroform &c.—and by so doing he places himself in an unenviable position

THE PREMIER ON MEDICAL FEES

To the Editors of THE LANCET

SIRS,—It must be a comfort to the medical profession to discover that you have lost no time in drawing attention to Mr Gladstone's statement—or, rather misstatement—with regard to the increase of medical fees. It is both curious and unfortunate that the Premier who is justly regarded as little short of a talking encyclopedia, and whose utterances gain European notoriety, should have fallen into an error of this description the time having long since arrived when a reaction is so necessary in the public mind to remove the fallacious ideas in respect to medical charges. The general public have to be reminded that the majority of medical men are not by inheritance millionaires nor are they likely to acquire such a status by supplying advice and medicine at sixpence which in the aggregate appears to represent the majority of fees and it is not impossible that Mr Gladstone was confounding quantity with quality when he referred to the increase thereof. And no doubt in the former sense he would be correct seeing that it has become a common practice for a single practitioner to run two or three establishments, which after all represent so many hybrid shops, in order to realise a so-called income, and which is equivalent to saying that men of the present day have to engage in three times the amount of practice to secure an income which could be obtained with relative ease in a past generation. What an ex-Chancellor of the Exchequer whose financial intellect has accustomed itself to regulate the purse-strings of the British Empire would think of 'advice and medicine for sixpence' it is not easy to know but, speaking as a humble practitioner, I have no hesitation in expressing an opinion that he who gives advice and medicine for sixpence pitiable as his condition may be nevertheless has a much greater advantage than he who takes 1*l.* and of such an one it may literally be said that "it is more blessed to give than receive"—I am Sirs yours faithfully,
SIXPENCE.
London, March 6th, 1893.

MEDICAL ETHICS AT BURTON

THE following circular has been forwarded to us —

"181, Horninglow street, Burton-on-Trent November 1871.

"I have the pleasure to inform you that, having resigned my position as Senior Surgeon to the Friendly Societies Association I am now carrying on my profession as physician and surgeon at the above address. The prescription, case and other books used in the practice carried on for so many years by Messrs. R. S. and (late) Paul Belcher have, with the nucleus of their practice been transferred to me—I am, yours obediently,

'JOHN OLDERSHAW,

'Member of the Royal College of Physicians Physician and Licentiate in Medicine Diplomate in State Medicine Certificate in Sanitary Science Licentiate of Royal College of Physicians Edinburgh Licentiate of Royal College of Surgeons, Edinburgh, Licentiate of Faculty of Physicians and Surgeons Glasgow Licentiate in Midwifery and Diseases of Women King and Queens College (by examination) Late Assistant Clinical Physician to Royal Infirmary, Liverpool Surgeon to the Dispensary for Diseases of Women and Children, Liverpool.

Mr Henry Morris—Our correspondent should consult the columns of *Le Progrès Médical*—Le Numéro des Étudiants, Nov 5th 1902.

"THE UNITED STATES AS A FIELD OF PRACTICE"

To the Editors of THE LANCET

SIRS,—Now and again one sees in the columns of THE LANCET the question asked as to what are the chances of obtaining a practice in the United States. "Viajaro" is the most recent inquirer, and I observe in your issue of Feb 11th a response (if a response it can be called) by "Yale University" To state that "there is always room at the top" is, I imagine, scarcely the kind of information "Viajaro" would like to receive. Most people (and they need not be very astute ones at that) are aware that merit sooner or later asserts itself in all countries the United States included. But I think 'Yale University' will concede after all, that America is the quack's El Dorado and that competing with quacks is neither dignified nor remunerative. As a rule the quack will get the better of the struggle, for he will descend to methods that an honourable and conscientious member of the profession can neither countenance nor practise. I agree with 'Yale University' that the newly arrived addition to our ranks will be dubbed "Doctor," "whatever his diploma" but at the same time I may as well remind "Viajaro" that the title of Doctor is a very cheap one in this country and that it is applied to common farriers, patent medicine pedlars and a host of druggists. The ratio of legitimate practitioners to the population in the States is 1 to 500, and this does not include the great number of humbugs that flood the country. Counter prescribing by druggists is very extensively practised, and there is a great deal of 'self doctoring' carried on by the average American. I seldom see a patient who has not been administering this or that nostrum to himself before sending for me. To give an idea of the enormous sale of patent medicine in this country, I may state that from one third to one half of the space of the average chemist's shop is allotted to these remedies and that they are for sale at every grocery. There is comparatively little dispensing done by doctors, but undoubtedly for self protection the doctor will have to do more of it, and the feeling among practitioners is growing rapidly in favour of reviving this old custom. The fees are fair and, generally speaking doctors charges are made upon the principle of getting as much as you can, but it must be remembered that a doctor here considers he does extraordinarily well if he collects two thirds of his accounts. If patients do not wish to pay it is seldom that they can be compelled to do so. Poverty is very much on the increase in the United States and charitable institutions likewise. 'Viajaro' if he is bent on emigration, had better betake himself to a British colony, where things are fashioned after the mother country. The last man desiring to emigrate to the United States ought to be the medical practitioner

I am, Sirs, yours faithfully

A BRITISH PRACTITIONER TWENTY YEARS
RESIDENT IN THE STATES.

February 1893.

AMENITIES BETWEEN MEDICAL MEN

THE rule by which medical men beset other practitioners and their families is a very good one and should be well observed. We are asked if it is in accordance with medical etiquette if, when a medical man takes his brother to a consultant, the consultant is to charge the full fee, the medical men both having been fellow students of the same hospital, and the brothers being sons of a medical man. It seems to us that the answer would depend much on the means of the lay brother. The consultant should not be deprived of his fee if the patient was well able to pay although he did happen to be brother and son to medical men. A good rule should not be strained in its application. On the other hand, the consultant in such cases generally contrives to ascertain the facts and to act considerably

'INSOLUBLE TABLOIDS.'

To the Editors of THE LANCET

SIRS—I am much obliged for your insertion of my letter on the above subject. There is however a mistake in the letter probably owing to my rather illegible writing which makes it read badly "Data of motion" should be date of insertion.—Yours truly,
March 7th, 1893.
WILLIAM G GROVES.

TESTING THE VIRULENCE OF CHOLERA BACILLI.

THE experiment of Professor Pettenkofer, designed to test the virulence of the comma bacilli, has been repeated by Dr Hasterlik and three other physicians at the Pathological Institute, Vienna. The cultures used were derived partly from German and partly from Buda Pest cases of cholera, and the quantity of culture employed in each case was one cubic centimetre. In two experiments 100 grammes of 1 per cent. solution of bicarbonate of soda were taken before swallowing the culture with the design of neutralising the acidity of the stomach. In two of the experiments only one of the six was diarrhoea observed, and that merely in a slight form whilst in the remaining three no effect whatever was produced. The defecations were examined microscopically and revealed the presence of bacilli.

MD—Each particular agreement must be dealt with on its own merits, according to the wording of the document and attendant circumstances. The "prevalent opinion suggested by our correspondent is not, we think, well founded

"A TOO INDESTRUCTIBLE BANDAGE"—(AN IRON RING USED AS A TRUSS.)

To the Editors of THE LANCET.

SIRS—In your issue of Feb 25th was recorded the case, related in a Spanish medical journal, of a man who applied an iron ring around his external genitals to keep up some dressings about his groins. In 1877 a somewhat similar case was treated at the old South Devon and East Cornwall Hospital here. A fisherman who had an inguinal hernia broke his truss whilst at sea and fearing that the rupture would descend into the scrotum he passed with some difficulty a wrought iron ring over his external genitalia. For one day all went well and the ring formed an admirable and efficient truss but he then unfortunately struck his scrotum against the gunwale of his boat and the parts swelled very rapidly. A few days afterwards, on admission into hospital his scrotum and penis were found to be enormously swollen and oedematous. It was at once evident that the only means of relieving the patient's condition was by cutting through the ring with a file. The parts were first incised to relieve the oedema. I cannot remember how many hours it took us to cut through the ring, but it was a very arduous task for us and a very painful ordeal for the patient. There was afterwards considerable sloughing, but eventually a good recovery was made, and the patient was discharged with a well fitting truss. The ring was half an inch thick and the file was used obliquely.

I am Sirs, yours faithfully

J ELLIOT SQUARE, F.R.C.S.

Plymouth, March, 1893.

MEDICAL ADVERTISEMENTS AT THE EAST END OF LONDON

A GENERAL PRACTITIONER sends us specimens of two bills which had been left at the houses of his patients one issued by a medical graduate—Dr Wallace M.B. C.M., 325, Old Ford road—from whom better things might have been expected. Medicine and advice are offered for 6d., and midwifery and diseases of women are boasted of as a specialty, but the fee for midwifery is from 10s. 6d. The other bill advertises the Roman road Provident Dispensary and Drug Stores 224 Roman road. Proprietor, Dr Taynton resident medical officer, Dr Wilson.

GINDERS FUND

To the Editors of THE LANCET.

SIRS—As the result of the appeal on behalf of the widow of the late A. Gerard Ginders L.R.C.P. Edin., who went down in the ill fated *Roumania* the following sums have been received—

THE LANCET Relief Fund	£25 0 0
British Medical Benevolent Fund	10 0 0
Donations	60 0 0
Total	£95 0 0

The committee consider the sum inadequate for the purpose they have in view—namely the furnishing a house for Mrs Ginders to take in lodgers—and would earnestly appeal for further contributions. Remittances to be sent to Dr Quintin McLennan, 191, Pitt-street, Glasgow

I am Sirs, yours faithfully,

HENRY E CLARK
(Convener of Committee).

Glasgow March 7th 1893.

TAKING THE AIR."

To the Editors of THE LANCET.

SIRS—There is in many towns among the poorer class of invalids a great want of some cheap mode of "taking the air." The donkey or bath-chair are perforce well enough for the helpless and unwieldy but they are uncomfortable too invalid like and too expensive for the ordinary convalescent for the phthisical or the anemic &c. for whom fresh air and sunlight are so essential. I would therefore suggest that the rickshaw "so much used and valued abroad might be introduced with great advantage to both the public and the unemployed. With a pneumatic tyre and a moderate charge its success would be assured and the cycle depots would find their wear and tear infinitesimal and damage to them nil if added to their stock.

I remain, Sirs yours faithfully

March 1893.

LD

THE RIGHT OF AN APOTHECARY TO CALL HIMSELF SURGEON

A CORRESPONDENT objects much to an apothecary who has recently settled near him and taken a chemist's shop calling himself "surgeon." He does not say what is the date of the licence. A apothecary under the Act of 1856 is qualified in surgery as well as in medicine, and is to all intents and purposes a surgeon. If the licence dates further back to a time when it did not involve qualification in surgery the use of the title is illegal. We should scarcely advise our correspondent to "take any action" in the matter. The licentiate is on the Register we presume, and the limitation of his licence if it be limited will perhaps appear one day in the county court if he attempts to recover charges in a surgical case.

Dr F Evans (Cardiff)—The condition would most probably prove a disqualification but the Military Secretary Horse Guards, might be officially applied to

TABLOIDS

To the Editors of THE LANCET

SIRS—Permit me through the columns of THE LANCET to suggest a method of employing hypodermic tabloids which I have practised for the last year. By simply placing them under the tongue I find that they are so quickly absorbed that their full physiological effect is as quickly produced as by subcutaneous injection. Since I discovered this mode I have seldom needed to resort to the syringe the simpler plan having invariably proved equally reliable. The only objection is the taste, and I have written to some well known makers with a view to remedying this defect. Even as now made I am quite convinced that the simplicity and efficacy of this method will secure for it a wide adoption.

I am Sirs yours truly,

Loughborough March 7th, 1893 WM PAULSON, L.R.C.P. Lond.

CAN MEDICAL PRACTITIONERS VEND THEIR PRESCRIPTIONS AS PATENT MEDICINES?

WHEN a medical man sells his prescriptions in a commercial way to capitalists or uses them for creating patent and secret remedies, to be advertised and turned to commercial account for his benefit, he abandons all professional paths, and must not be surprised if, on proof being given, the medical authorities of the profession withdraw his diploma or his registration. He would have no right of complaint, for in so acting he would proclaim that he had ceased to rely on professional methods of success, and had adopted others inconsistent with the retention of his professional position.

A B—Our correspondent may justly complain of the terms of the letter he received in explanation. They are not courteous and not such as the busiest man is justified in writing to an applicant for an assistantship

THE "MEDICAL DIRECTORY"

To the Editors of THE LANCET

SIRS—I have to spare a set of Churchill's "Medical Directory" complete since 1847 (first and second vols. 1845 and 1840, missing) which I should be very glad to give to any medical library wanting them if you could make the fact known. I am Sirs, yours truly

Birmingham March, 1893

LAWSON TAIT

THE Prudential Assurance Company Limited, has issued a report and accounts for the year 1892 which disclose an unprecedentedly large measure of success, and justify it by the discovery of a very high standard of efficiency and economy in the management of the enormous business transacted by the company. Henceforth an annual valuation will take the place of the quinquennial operation which has heretofore sufficed, and the change is inaugurated by a valuation report now submitted, together with a customary report upon the business of the year. The very favourable criticism which we have felt at liberty to pass upon the one may be extended to the other of these statements.

THE following card has been sent to us—

"Dr Walter (of 87, Noel-street) attends at S Cook's Dispensing Chemist, 76 Radford road, Hyacinth green, from 3 to 4 P.M. daily (Thursday excepted). Private consulting room."

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received—*Arms and Explosives Court Journal* Lyttelton Times (New Zealand) West Hain Herald, Port Elizabeth Telegraph (Cape of Good Hope) The Weekly Press (Pretoria) The Cambrian (Swansea) The Morning Reford Workshop and Gainsborough News Manx Sun (Douglas Isle of Man) Fulham and West London Observer Western Chronicle South Wales Echo Hampshire Advertiser, Eastbourne Standard Devon Gazette Democrat (Boston, Mass.) Alliance News (Manchester) Birmingham Gazette Worcester Hampton Chronicle Bath Gazette Sussex News Leicester Post West Sussex Gazette Dundee Courier Times of India Cape Argus Pioneer Mail, Natal Mercury Shanghai Mercury Irish Times Galician's Messenger Le Temps (Paris) Derwick Journal Sunday Times South Wales Daily News Salisbury Journal Pembroke City Guardian, Armagh Guardian, Catholic Herald

Communications, Letters &c. have been received from—

- A—Dr Julius Althaus London, Dr J Arlidge, Stoke-on-Trent, Mr H Audenoud, Geneva, Mr W S Alexander Sheffield, Mr H Allingham London Messrs Allen and Hanburys London Antiseptic, London Arms and Explosives, Editor of, Alpha.
- B—Dr Ed. Blake London, Dr T Bond Leamington, Dr Buckley, Oldham Brigade Surg Lt Col J P B Boileau, Bengal Dr Bergonie, Bordeaux Mr W H Brawn Leeds Mr R J Bedford Kegworth, Mr G T Barnard, Aberdare, Mrs Brooke Northampton Birmingham General Hospital Blackburn Infirmary, Bartholomew London
- C—Prof M. Charteris Glasgow, Dr Jas. Cagney, London Mr Collingwood, London Surgeon Major W E. Chester Alexandria Mr F Ward Clutchless, London, Mr Colman, London Mr Croke Beverley Mr T Cooke London, Mr W Coode St. Austell Mr Wm. Crookes Islington Messrs Castle and Lamb London Children's Hospital Sheffield Croton, London
- D—Dr A Dixey, London Signor Carlo Ducl London Dr Ed Deaneesly Wolverhampton, Dispute
- E—Messrs. Evans Sons and Co., Liverpool, E P, London
- F—Prof M Foster Cambridge, Dr Foster London Mr George Foy, Dublin, Messrs. Fullagar and Hutton Bolton Messrs Fasset and Johnson London.
- G—Dr Clement Godson, London, Prof Gairdner Glasgow
- H—Mr J C Humphreys London, Mr Heywood Manchester Mr C B Barnes London Messrs. Harrison and Brass, Elgin The Hospital London H D S Hartlepool Hospital
- I—Sir George Johnson, London Dr F Fitzherbert Jay, London Dr Harris Jones Pa U.S.A., Mr W B Jalland York Mr G R Jesse Macclesfield Mr Henry Jackson Coventry, Messrs. Judd and Co, London C M R London
- K—Dr R. Kirk, Partick, Messrs Krohne and Sesemann London, Messrs. R. A. Knight and Co, London.
- L—Dr F J Little London Mr H. K. Lewis, London, Messrs T H Lloyd and Co, Leicester, Liverpool Royal Infirmary
- M—Mr Mould Twickenham, M.D., Maltine Manufacturing Co, London M E B, London, Medicus, Coventry, Manchester Royal Infirmary
- N—Dr G Nowland Berlin, Dr J Nivison Castle Douglas, N B, Mr C B Norman, London, N S
- O—Dr Jas. Oliver, London.
- P—Dr F A. Purcell London Dr F Page, Newcastle on Tyne, Mr Chauncy Puxey, Liverpool, Mr E Park, Cardiff
- R—Dr R. Richardson, Benenden Surg Capt J D Reckitt, Shorncliffe, Messrs Robertson and Scott Edinburgh, Messrs. Reynolds and Branson, Leeds
- S—Dr Joseph Soffiantini, London Dr Sydney Stephenson London, Dr Jas. Shaw, Liverpool Dr J P Steele Florence Prof W Smith London Mr R Sheward Eastbourne Mr F A Southam Manchester Mr J Elliot Square Plymouth, Mr W Percy Sladen, London, Mr E S Sheppard, Durham Mr H Sell London Mr F W Sears London Mr W Stallard Worcester Stockport Infirmary, A Surbiton Practitioner
- T—Dr W J Tyson Folkestone, Dr Taylor, Johnston Rev A Tooth Croydon, Mr F Tintman Bristol.
- U—Miss Philippa F Upton, Southfields, Ubbique, London.
- V—Viator London.
- W—Dr W Hale White, London Dr Wethered, London Dr J Wilson Liverpool Dr Mackie Whyte Dundee Dr W Wood ward Worcester Mr Francis H Wood London Wesleyan Conference Office London
- X—Mr N E Yorko Davies, London

Letters, each with enclosure, are also acknowledged from—

- A—Dr J Adamson co Durham, Mr C B Allen, Kilburn, Messrs Armour and Co London, Amicus, London A W V, London A R P, London, Amicus, Leicester
- B—Dr W Beck, Westmoreland, Dr L R Barnett, North Dunedin, Mr M. N. Byin, York Mr J Breach Newbury Mr G R E Bonnal Aberystwith Mr C Butler, Brixton Mr J Barry, Stockton on Tees, Mr H H Bough, Hull Mr J Blackburn Barnsley Mr W S Battias, Southsea, Mr R O Bunting, Southsea, Mr S J Brooks, Manchester Miss A. Belcher, Bermondsey B C London B A, M B Kilburn Barnwood House Hospital Gloucester, Bridge water Infirmary
- C—Dr C S W Cobbolt, Bath Dr J Cooke Christchurch, N Z, Mr B Culpeck, Croydon, Mr J Chivers Mitcheldean Mr J Cochran Greenock Mr G F Carter Dundee, Messrs. Condy and Mitchell, London Messrs Curry and Paxton London College of Preceptors, Bloomsbury Chichester Infirmary, Children's Hospital Penderbury C E A, London Cash, London C D V, London Coldwell Manufacturing Co, London, Caldow Wanstead.
- D—Mr W H Davies Newport Mr R A. Dove, Carlisle Mrs. Danby Lincoln Devon County Asylum D London Dundee Royal Infirmary Dentist London
- E—Edinburgh School of Medicine.
- F—Mr N H Forbes Tunbridge Wells Mr G W Featherstone, Manchester Fairweather, Pocklington, Fides, London.
- G—Mr J Good Robertsbridge Glasgow Western Medical School G B G, London, Gunner, London
- H—Mr W Hay Hull, Mr E H Hutton Twickenham Mr F F Hale Chesterfield, Mr O Holst Bath Mr J E Halpin South Normanston, Huntingdon County Hospital Hospital for Women Scho square Hamilton Association London.
- I—Ingham Infirmary, S Shields.
- J—Dr D M Jones, Marake by Sea.
- K—Messrs. Kerin and Lynam.
- L—Mr E D Lumsden, Sheffield, Messrs. Lewis and Weatherhead, Withersden Liverpool Northern Hospital Licentiate London Lunacy, London L.R.G.P. Birkenhead, L B C P, London
- M—Dr R. Main, East Halesy, Dr J McLane Melbourne, Mr H Murray, Hornsey Mr W R Munford London Mrs. Masters, Boscombe, Medicus Coventry, M. L., London Mater Highgate-road, M R O S, London, Mad den, London
- N—Dr A T Norton, London Mr R. G. Naylor, Audlem Mr J Nicholson, Kinbrace National Provident Institution London, North Staffs Infirmary Northumberland County Asylum
- O—Mr M. O'Brien Bowes-park, Onyx London, Omega, London, Oldham Standard
- P—Dr Peart, North Shields Mr J G Purrell New Brighton, Mr F Pomeroy, Bristol Prov Clerks Mutual Life Association P London, Pilocarpine, London
- R—Mr H S Reynolds, Hendon Mr J Richards, Llanberis Mr F Rebnan, London, Messrs W A. Ross and Sons Belfast Messrs. Rees and Latham, West Bromwich Royal Westminster Ophthalmic Hospital.
- S—Dr Swayne Clifton, Mr J Saunders Overstrand, Mr M G Sykes Barnsley Mr G O Skardon Southsea Sheffield School of Medicine Surgeon York S P, London, Smith, Repository Brighton, Student London, Spes London, Surgeon Leicester
- T—Mr J F Tracey, Glasgow Mr J Thlin Edinburgh, Mr Tye, Minchinhampton
- U—Mr H Urquhart, London, Unqualified, London
- V—Victoria Hospital for Sick Children, Chelsea.
- W—Mr A. Wallis Heywood Mr G S Ward Kidlington Messrs. Wilcox and Co, London Messrs. Whitworth and Stuart Manchester W B, London.
- X—X. Y Z, London

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An original and novel feature of 'THE LANCET General Advertiser' is a special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice, but is in itself an additional advertisement.

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Terms for Serial Insertions may be obtained of the Publisher, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's Railway Bookstalls throughout the United Kingdom Advertisements are also received by them and all other Advertising Agents.

Agent for the Advertisement Department in France—J. ASTIER, 66, Rue Caumartin, Paris.

Groonian Lecture

THE POSITION OF PATHOLOGY AMONG THE BIOLOGICAL SCIENCES.

Delivered before the Royal Society on Thursday, March 16th, 1893,

BY PROFESSOR RUDOLF VIRCHOW,
FOREIGN MEMBER OF THE ROYAL SOCIETY

GENTLEMEN,—It is now nearly ten years since this illustrious Society conferred on me the unexpected honour of electing me one of its Foreign Members. Not alone this, but last autumn it deemed me worthy of a further honour, in awarding me the Copley Medal—a token of the highest recognition of my work, the significance of which far exceeds the distinctions which the changing favour of political powers is accustomed to bestow. Nevertheless, deeply as I appreciated this mark of its constant and increasing esteem, still I was not in a position to offer my thanks personally to the Society. Numerous duties, official and private, the weight of which has increased with each year, compelled me to work continuously at home, and the extension of international relations becoming more intimate, has for a long time restricted the freedom of my movements even during the vacations. With great indulgence, which I fully know how to appreciate, the Council has allowed me to postpone the date of my appearance in its midst. Hence you see me only to-day amongst you, and I may tell you in person how very grateful I am to this Society, and how great an incentive to new efforts your recognition has become to me.

Who of us is not in need of friendly encouragement in the changing events of life? True, happiness is not based on the appreciation of others, but on the consciousness of one's own honest labour. How otherwise should we hold our ground in the midst of the turmoil of the day? How should we preserve the hope of progress and of final victory against the attacks of opponents and the insults which are spared to no one who comes before the public? He who during a long and busy life is exposed to public opinion certainly learns to bear unjust criticism with equanimity, but this comes only through the confidence that our cause is the best, and that some day it must triumph. Such is our hope in our wrestlings for progress in science and art. Such is our hope in our struggles for civil and religious liberty, and in this hope we gradually become hardened against malicious attacks. It is a kind of immunisation which, I acknowledge, has also great drawbacks for this hardening against unjust attacks leads very easily to a similar indifference towards just attacks, and, owing to the tendency to contradiction rooted in the nature of human thought, it finally leads also to indifference to praise and recognition. One withdraws again and again into oneself, discontented with the world and with oneself also, but who can so completely retire within himself that the consciousness of the insufficiency of human thought, and that the criticisms of opponents are justified, cannot break through the crust of even the most hardened self-consciousness? Happy is he who has courage enough to keep up or regain his connexions with other men, and to take part in the common work. Thrice happy he who does not lack in this work the flattering commendation of esteemed colleagues. Such were the thoughts which filled my mind as, looking forward to the present occasion, I reviewed my own life and the history of science, or to use another expression, the fortunes of our predecessors. How often have I found myself in a state of despondency with a feeling of depression. And the history of science—what long periods of stagnation and numerous interruptions has it not experienced owing to the victory of erroneous doctrines. What has saved me is the habit of work, which has not forsaken me even in the days of outward misfortune—that habit of scientific work which has always appeared to me as a recreation, even after wearying and useless efforts in political, social and religious matters. That which has saved science is identically the same, it only appears to be different, because the coöperation of many is necessary to secure the advance of science, hence, the exalting and consoling thought that one nation after another comes to the front to take its share in the work. When the star of science becomes dim in one nation it rises sooner or later to yet

brighter glory in another, and thus one nation after another becomes the teacher of the world. No science more often than medicine has gone through these waxings and wanings of brilliancy, for medicine alone of all the sciences has, for more than 2000 years found ever-new homes in the course of a progress which, though often disturbed, has never been wholly arrested. It would lead us too far to illustrate this with examples drawn from the entire past. It is enough for my present purpose to take the outlines of modern medicine as the object of our consideration. Such a sketch, cursory as it must be, ought at the same time to throw some light on the intellectual relations of both nations, English and German, for these have taken a prominent part in establishing the principles of modern medicine. The downfall of the old medicine, the so-called humoral pathology, was brought about in the beginning of the sixteenth century. We in Germany are inclined to attribute to our nation a decisive rôle in this memorable struggle. It was a man of our race, Andreas Vesalius, of Wesel, who transformed anatomy into an exact science, and who thus at one stroke created for medicine a solid foundation, which it has retained ever since and, let us hope, will never again lose. But the principal blow to the old medicine was struck by his somewhat older contemporary, Paracelsus that charlatan, yet gifted physician, who removed from amongst the beliefs of mankind the doctrine of the four humours, which, quasi chemical in its construction, formed the basis of the old pathology. Strangely enough, he accomplished this with weapons borrowed from the armoury of the Arabs, the successors of the Greeks and the chief representatives of the mediæval humoral pathology. From them also he borrowed alchemy and, at the same time, the fantastic spiritualism of the East, which found a clear expression in his doctrine of the "archæus," as the determining force in all living beings.

In this way the new medicine, at its very birth, absorbed the germs of that ruinous contradiction which, even up to this present century, has kept up the embittered strife of the schools. To Vesalius is due the exact tendency which arises from the observation of actual conditions, and which, without going further we may call the anatomical. Paracelsus who pronounced the anatomy of the dead body to be useless and sought for the basis of life as the highest goal of knowledge, demanded "contemplation" before all else, and, just as he himself arrived in this way at the metaphysical construction of the archæus, so he unchained among his followers a wild and absolutely fruitless mysticism. Nevertheless there lay hidden in that "contemplation" of his, a healthy kernel which would not allow the intellectual activity which it had stirred up to come to rest. It was the idea of life which formed the ultimate problem for all future research. Strangely enough, this idea, which always existed in the popular mind and which is in an unmistakable form present even amongst primitive nations, had been driven far into the background in scholastic medicine. Ever since the time of Hippocrates it had been the custom to use, instead of life, the obscure expression "φύσις," *natura*, but in vain does one seek for a more exact definition of the term. To Paracelsus nature was living and the basis of his life was that very "archæus," a force differing from matter, and separable from it, or, as he himself expressed it in the sense of the Arabs, a spirit, *spiritus*. In the compound organism man,—the *mikrokosmos*,—each part, according to him, had its own "archæus," but the whole was ruled by the "archæus maximus" the "spiritus rector." From this premiss has proceeded the long succession of vitalistic schools which, in ever changing forms, and with ever new nomenclature, introduced into the notions of physicians this idea of a fundamental principle of life.

If the sagacious Georg Ernst Stahl, whose services to the development of chemistry are now acknowledged everywhere, substituted the soul for the "spiritus rector" and so created a system of animism, the last vestiges of which have disappeared from the school of Montpellier within our own time only so also in turn did the pure vitalists build up on the dogma of specific dynamic energies maintained so stoutly by the physicists that notion of the vital force the half spiritualistic and half physical character of which has contributed so much even in our day to puzzle and mislead men's minds. The doctrine of the vital force found its strongest support in the "Naturphilosophie," especially in that which on German ground, soon obtained universal sovereignty. This summary exposition of mine has greatly anticipated the historical progress of the evolution of medicine. It is now time to pay proper homage to the great investigator who

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from his school days in Leyden to his professorship in Göttingen. It was in this sense that he understood the irritability of the muscles, and in the same sense he denied this property to the nerves. This dispute about the irritability of muscles has continued far into the present century, its long duration becomes intelligible only when we bear in mind that, without the most exact knowledge of its historical development, even the very statement of the question is liable to be misunderstood.

As a matter of fact, so far as we know, the nerves are not contractile like the muscles on the other hand, the muscles are not only contractile, but are also irritable. Irritability and contractility are not identical, even when they occur in the same part. The nerve current, on the other hand, cannot be compared with the blood stream, it does not consist in the movement of a fluid, but is of electrical nature, and hence there is no need for its production of a contraction of the nerve-tubes. It was also an erroneous conclusion that every irritated part contracts. Instead of contraction, secretion, or, under certain circumstances, a more vigorous nutrition, may occur as the final result of irritation. Hence we use a more comprehensive term in order to express this final result, and call all forms of it "actions." While Glisson defined all "*actio propria sic dicta*" as "*motus activus*," we distinguish different kinds according to the nature of the effects, or, expressed otherwise, according to the direction of the activity (nutrition, formation and function), but we agree with the above thinker in the opinion that no vital energy is ever set free without stimulus, that therefore every action is of an irritable nature. In this irritation, according to my idea, consists the "*principium dividendi*," according to which we must distinguish between active and passive processes of life, and in this way we gain also a basis for the fundamental division of pathological elementary processes. How much work has been necessary in order to render this conception possible. And how great, even now, is the number of our colleagues who have not fully accepted it. The reason for this difficulty is twofold. Most of the vital actions of life, whenever they manifest themselves by visible events, are of a compound nature. As a rule very various, at times wholly unlike parts, each with its specific energy, combine to produce them. Not infrequently it thereby happens that in the visible sum of final effects one part behaves in an active, the other in a passive manner. It is only the most minute analysis of the phenomenon, tracing it right back to the elementary parts, which allows the total result to be resolved into its components, such an analysis cannot for the most part be expressed in current language except at great length. No language in the world is rich enough to possess special expressions for each such combination. Only too often we help ourselves out of the difficulty by regarding the compound phenomenon as a simple one, and by expressing its character according to some chief trait which stands out in a commanding manner from the general picture. This is the practical difficulty. With it, however a theoretical difficulty is very often combined. The human mind, owing to a natural impulse, seeks in the phenomena indications of their determining cause. The more complex the phenomenon the more busy is the imagination in order to convert it into a simple one and to find a unitarian cause for it. So has it happened in respect to life, so in respect to disease. The course of thought followed by Glisson is opposed to such an explanation. He had no scruple in dividing the unit of life into a large number of individual lives. Although the knowledge we now possess of the arrangements of the body was absolutely foreign to him, yet he arrived quite logically at the *vita propria*, the proper elementary life, of the several parts. To be sure, this expression, as far as I can see is not to be found in his works, but occurs first in those of Gaubius, but Glisson says distinctly: "*Quod vivit per se, vivit vitam a nulla creatura præter se ipsum dependentem. Hoc enim verba vivere per se sonant.*" The unitarian efforts of the following period relentlessly passed over the tendency of which I have just spoken. Some returned to the old Mosaic dictum, "*the life of the body is in the blood*," others gave the nervous system and the brain especially, the first place in their consideration. Thus once more was renewed the old struggle which for thousands of years had divided the schools of medicine into humoral and solidar pathology. Even when we ourselves entered on scientific work, hæmatopathologists stood in hostile attitude to neuro-pathologists. In England humoral pathology found a strong support in the

great and legitimate authority of John Hunter. Although this distinguished practitioner never shared the one-sidedness of the later pathologists, but rather attributed to the solid parts the living principle—the existence of which he assumed—nevertheless, in his investigations, the blood took precedence over all other parts as the chief vehicle of life.

One must, however, recall to mind that Hunter laid special stress on the fact that life and organisation are not bound to each other, since animal substances which are not organised can possess life. He started, as has already been noticed, from the erroneous conception that eggs are *not* organised, and that it was not till after incubation that the first act of organisation—namely, the formation of vessels—took place. He considered his "*diffuse matter*" ("*materna vita diffusa*") as the actual carrier of life, and this was to be met with not only in the solid parts, but in the blood also. This matter, according to him, existed in the brain in a remarkable degree of concentration, but its presence was quite independent of all nervous structures, as is shown by the example of the lower animals which possess no nerves. In the posthumous writings of Hunter, which Owen has collected, the very striking expression "*simple life*" is met with, a state most clearly to be recognised in plants and the lowest animals. This simple life was in Hunter's view the ultimate source of all living actions, pathological as well as physiological. Hunter was out and out a vitalist, but his materialistic vitalism, so to speak, differed *toto calo* from the dynamic vitalism of the German schools. If living matter existed independently of all organisation, such living matter was beyond the scope of anatomical investigation, but, on the other hand, if it were present in non-organised parts, such as an egg, it was in itself the ultimate source of the organisation which subsequently makes its appearance in these parts. It must, therefore, to adopt a later mode of expression, be of a plastic nature. Here Hunter's notion agreed with that of the plastic lymph, as developed by Hewson, and it was only logical that Schultzenstein applied it to the blood at last, and designated as "*plasma*" the material of life present in the blood. In this way the formative and nutritive matter necessary to physiological life, as well as the plastic exudations occurring in diseased conditions, could be attributed to the same material—a highly satisfactory result in appearance, and one providing a most convenient basis for interpretations. The exponents of this notion had no scruples in going one step further and in providing this material of life with a technical name. They called it "*fibrin*." Evidently this did not quite correspond with Hunter's ideas, for we know of no such matter, either in the egg or in the plants or in the lower animals, as that to which he attributed simple life, but the necessities of pathology overcame all such scruples and the plastic exudations were received as undoubted evidence that fibrin possessed the power of becoming organised. They formed, in the crisis doctrine of the Vienna school, the bright spot of this newest kind of hæmato-pathology. Wherever fibrin failed, blastemata were brought to the fore. Ever since Schwann had given the name of cytoblastema to the organising material of the egg, the way had been open for assuming, in other places, the existence of material with this ambiguous name. But of course through these steps the one simple matter of life predicated by Hunter was replaced by many "*matters of life*," and thus the entire advantage gained by the exposition of a unitary theory of life was at once lost. Even when, finally, protoplasm was recognised as cell contents and thus the one requisite of Hunter—namely that the material of life must also be contained in the individual parts—appeared to be fulfilled, yet no single specific material was thereby arrived at. No one dreamed of regarding protoplasm as fibrin, and least of all did anyone consider it a simple chemical body.

By the conception of the blastema, however there had been reawakened a thought which had occupied the minds of men from the earliest times. If a plastic matter capable of being organised really existed in the body, then the organisation of the same must present the first reliable example of epigenesis. The problem of the "*generatio æquivoca*," which had been fought over for so long a time, now appeared to be solved. What Harvey had taught concerning the descent from the egg was rejected concerning the continuous descent from exudation. Several generations of young medical men have been educated in this belief. I myself remember my "*epigenetic*" youth with no little regret, and I have had hard work to force my way through to the recognition of the sober truth. Meanwhile, the attention of other bodies of inquirers

* Glisson, "*Anatomia Hepatis*," "*Ad lectorem*" 17

made the more exact method the ruling one, and at the same time to award to this country, which brought him forth, its important share in determining the new direction of our science. Nearly 100 years had passed since Vesalius and Paracelsus had begun their work when William Harvey published his "Exercitatio anatomica de motu cordis et sanguinis in animalibus." Here, for the first time, the anatomical examination of living parts was carried through, in an exemplary way, according to experimental methods. All the objections that anatomy concerned itself with dead parts only were thus at once set aside, living action became the object of immediate observation, and this was done on one of the most important organs, one absolutely necessary to life, the varying activity of which constantly calls for the attention of the practical physician. Not only so, however, but a new mode of observation—the experimental method—was thus brought into use for research, a method through which a new branch of medical science, physiology, has been laboriously built up. The influence of this one wonderful discovery of Harvey on the ideas of men of his time and of his successors was memorable. Among the men of his time the last support of Galenism disappeared with the proof of circulation, among his successors the comprehension of the causation of local processes dawned for the first time. Very ancient and highly difficult problems, such as inflammation, could now be attacked, a goodly piece of life also became intelligible since one of the vital organs themselves could now be subjected to experiment, and, to the astonishment of all, the action of this organ showed itself to be an absolutely mechanical one. The revulsion of thought was so complete that it has become since a difficulty hardly to be overcome to enter even in imagination into the ideas of the older physicians, to whom the circulation of the blood was unknown. Nevertheless, in spite of such striking results, the craving of man for more complete understanding remained unsatisfied. One saw the action of the living heart, but how did it live? What was this life the action of which one saw before one? In the heart itself the essence of life could not be recognised. Harvey turned his attention to another object, he tried to observe the very beginnings of life in the incubated egg of the fowl and in the embryos of mammalian animals. He thereby soon arrived at the question of the significance of the egg in general, and enunciated the celebrated dictum, "Omne vivum ex ovo." Owing to the more extensive researches of modern investigators, this dictum, as is well known, proved too narrow for the whole animal kingdom, and is no longer exact when applied to plant life. Its validity for the higher animals, on the other hand, cannot be questioned, and it has formed one of the firm standpoints on which researches on sexuality and on the propagation of life have been based, but Harvey, on account of the deficiency of his optical instruments, was unable to see that which he was labouring to discover—namely, the process of organisation as such, just as he had been unable in former times to see the continuity of the capillary flow. This imperfection lasted for a long time afterwards, and thus it happened that even Albrecht von Haller and John Hunter considered the formation of the area vasculosa in the incubated egg of the fowl as the commencement of organisation, and indeed, as the type of organisation itself. I will return to this point later, but for the present I should like first to draw your attention to a man whose importance for the further development of the doctrine of life has always appeared to me to have been uncommonly great and highly significant, but who, nevertheless, has sunk into unmerited oblivion, not only among posterity in general, but also, I think I may be allowed to say even in the memory of his countrymen. I mean Francis Glisson, who was a contemporary of Harvey, and whose works appeared almost simultaneously with those of his more celebrated colleague, but the brilliancy of Harvey's discoveries was so great that the light which shone from Glisson's work table almost disappeared. I rejoice that on so auspicious an occasion I may recall the memory of the modest investigator and may offer him the tribute of gratitude which science has to award him.

When, thirty five years ago, I published my little essay on Irritation and Irritability,¹ I did not know much more about Glisson, than every student of medicine learns—namely, that there is in the liver a "capsula communis Glissoni," and, what was even less known, that this anatomist had written a small work on "Rachitis," which, indeed, was the

first of its kind. In my own paper on this disease¹ I tried to demonstrate the circumspection and accuracy which are noticeable in this book, and which make it a typical model for all collective investigations, but even at that time I overlooked the fact that this was only the smallest merit of this wonderful man. It was only in the further course of my studies on the history of the doctrine of irritation and irritability that I made the discovery—an astonishing one to me—that the idea of irritability did not, as is generally thought, originate with Haller, but that the father of modern physiology and the Leyden school in which he had been brought up had borrowed this idea from Glisson. I then stumbled on a series of almost forgotten publications of this original scholar, especially his "Tractatus de natura substantiæ energetice seu de vita naturæ ejusque tribus primis facultatibus, perceptiva, appetitiva et motiva," which appeared in London in 1672, and in which the ideas were further worked out, the outlines of which had already been brought forward in his "Anatomia hepatis," published in 1654. In this work (p. 400) the newly coined word "irritabilitas" appears, so far as I can find out, for the first time in literature. It may be noticed, by the way, that the expression "irritatio" is much older. I find it already in Celsus, but with an exclusively pathological signification. It appears also occasionally in later writers, and to this day it has not, speaking accurately, lost this original signification. It is otherwise with Glisson, to him irritability is a physiological property and irritation merely a process of life dependent on the natural faculties of living matter. Thus he was led, through a process of "contemplation," to maintain the existence of the "blanchia," the "principium vitæ" or the "biusia," the "vita substantialis vel vite substantia." And in order to allow of no misunderstanding as to the source of his 'contemplation,' he adds distinctly that this is the "archæus" of Van Helmont—the "vis plastica" of plants and animals. In the further course of his philosophical discussions he nevertheless is led into the same by path which has misled, even in the most recent times, so many learned men and even excellent observers. This is the by path of unlimited generalisation. The human mind is only too prone to render intelligible what is unintelligible in particular phenomena by generalising them. Just as even in recent times an attempt has been made to render consciousness intelligible by representing it merely as a general property of matter, so Glisson thought he might attribute to the active principle ("principium energeticum"), which according to him is contained in all matter, the three faculties of living matter which he considered as fundamental—namely, the facultas perceptiva, appetitiva et motiva. All matter was sensitive, was thus stimulated to develop impulses, and moved itself as a consequence of these impulses. It is not necessary for the purpose of our present inquiry to carry these quotations further, since they are quite, in the Paracelsian sense, contemplative in their nature, and especially as, in their generalisation, they do not appear to be important for the history of advancing knowledge. That which is full of significance for us is concerned with actual life only, in the narrower sense of analytic science. It was not the "principium energeticum" set up by Glisson which stimulated his successors again to take up the thread of his observations, but rather this process of irritation described by him and the fundamental faculties of living matter on which it depended. In this way he has really led up to a more exact study of the actions of life and the properties of living matter. Unfortunately there intervened a mistaken conception, which led his followers again into a series of most serious errors. Glisson following on this point also the example of Van Helmont, was convinced that nerves contracted when irritated. He joined to this the idea that, through the contraction of the nerves, or even of the brain, the fluid contained in them was propelled towards the periphery. This notion, shared by Willis and many other physicians of that time, furnishes the reason why irritability was identified with contractility. Even the great master Hermann Boerhaave, and after him his pupil Gaubius, the first special writer on general pathology, considered sensation and motion as common properties of all events, all the solid parts of the body. The former thought it proved that hardly a single particle of the body existed which was not sensitive and did not move, and thus it becomes comprehensible how Haller himself carried this idea that irritability had the same significance as contractility

¹ Archiv für Pathologische Anatomie und Physiologie, 1868, vol. xiv p. 1.

² Ibid., 1853, vol. v, p. 410.

the tissues, but it soon became apparent that even the tissues are not simple substances. Since the third decade of this century the microscope has disclosed the existence of cells, first in plants and very soon afterwards in animals. Only living beings contain cells, and vegetable and animal cells show so much similarity of structure that one can demonstrate in them the actual product of organisation. This conviction has become general since through our embryologists, especially through Schwann, proof has been afforded that the construction of embryonic tissues was derived from cells also in the highest animals and in man himself. In the fourth decade of this century the science of pathological anatomy had already begun to be directed towards cells. These researches very soon struck on great difficulties. Many tissues, even in their developed state, appeared to contain neither cells nor their equivalents, nevertheless, I have been able to demonstrate their existence in those tissues in which their presence appeared to be most doubtful—viz., in bone and connective tissue. At the present time we are so far advanced as to be able to say that every living tissue contains cellular elements. We go a step further even, for we require that no tissue alone should be called living in which the constant occurrence of cells cannot be shown. A still greater difficulty then appeared—namely, to discover in what way new cells originated. The answer to this question had been very heavily prejudiced by the so-called cell theory of Schwann. Inasmuch as this very trustworthy investigator asserted that new cells originated from unformed matter, from ‘cytoblastema,’ there was opened up a wide road to the old doctrine of the ‘generatio æquivoca,’ which afforded all partisans of plastic materials an easy way of reviving their dogma. The discovery of cells of connective and allied tissues gave me the first possibility of finding a cellular matrix for many new growths. One observation followed another, and I was soon in a position to give utterance to the dictum, ‘Omnis cellula a cellula.’ And so at last the great gap was closed which Harvey’s ovistic theory had left in the history of new growth, or, to speak more generally, in the history of animal organisation. The begetting of a new cell from a previous cell supplements the reproduction of one individual from another, of the child from the mother. The law of the continuity of animal development is therefore identical with the law of heredity and this I now was able to apply to the whole field of pathological new formation. I blocked for ever the last loophole of the opponents, the doctrine of the specific cells of pathology, by showing that even diseased life produced no cells for which types and ancestors were not forthcoming in normal life.

These are the fundamental principles of cellular pathology. In proportion as they have become more certain, and lastly of more general value, they have also secured for themselves great importance in physiology. The cell is not only the seat and vehicle of disease, but also the seat and carrier of individual life, in it resides the ‘vita propria.’ It possesses the property of irritability, and the changes in its substance, provided these do not destroy life, produce local disease. Disease presupposes life, should the cell die, its disease also comes to an end. Certainly, as a consequence, the neighbouring and even far distant cells may become diseased, but as regards the cell itself the susceptibility to disease is extinguished with life.

Since the cellular constitution of plants and animals has been proved, and since cells have become recognised as the essentially living elements, the new science of biology has sprung up. It has not brought us the solution of the ultimate riddle of life, but it has provided concrete, material, anatomical objects for investigation, the properties the actions and the passions of which we can analyse. It has put an end to the wild confusion of fantastic and arbitrary notions such as I have just mentioned, it has placed in a strong light the immeasurable importance of anatomy, even in the most delicate conditions of the body, and lastly, it has made us aware of the close similarity of life in the highest and lowest organisms and has thus afforded us invaluable means for comparative investigation. Pathology has also its place, and one certainly not without honour in this science of biology, for to pathology we are indebted for the knowledge that the opposition between healthy and diseased life is not to be sought in a fundamental difference of the two lives not in an alteration of the essence, but only in an alteration of the conditions. Pathology has been released from the anomalous and isolated position which it had occupied for thousands of years. By applying its revelations not only to the diseases of man, but also to those of animals even the smallest and lowest, and to those of plants,

it in the best manner helps to strengthen biological knowledge and to narrow still more that region of the unknown which still surrounds the intimate structure of living matter. It is no longer merely applied physiology, it has become physiology itself. Nothing has more contributed thereto than the constant scientific union which has endured for more than 300 years between English and German investigators and to which we to-day add yet another link. May this union never be broken.

ABSTRACT OF

The Goulstonian Lectures

ON THE

CHEMICAL PHYSIOLOGY OF THE ANIMAL CELL

Delivered at the Royal College of Physicians on Thursday, March 5th,

By W. D. HALLIBURTON, M.D.,
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LECTURE II.

THE CHEMICAL CONSTITUENTS OF THE NUCLEUS, THE PROTEIDS OF CELL-PROTOPLASM.

[DR. HALLIBURTON resumed his discourse by considering the chemical constitution of the nucleus. He mentioned the fact that Dr. Lauder Brunton had been the first to investigate this subject, and referred to the labours of Miescher, Hoppe-Seyler, Kossel, Loew, Plösz, Von Jaksch, Geoghegan and Lubavin. The researches of these investigators together with the results recently obtained by Liebermann and Malfatti, rendered, he stated, a scientific classification of nucleins possible. He then continued.]

From the facts mentioned I should recommend the following slight modification of Hoppe-Seyler's classification of the nucleins. 1. Nuclein which contains no proteid, this is synonymous with nucleic acid. It occurs in nature in the heads of spermatozoa. Nucleic acid contains no sulphur. 2. Nucleins rich in nucleic acid and in their reactions very similar to the latter. These may be artificially prepared and occur in nature in the chromatic fibres of the nucleus. 3. Nucleins which are poorer in nucleic acid. They form numerous links in a chain and pass insensibly into those of the next group. They occur in nature in the nucleoli (pyrenin) and constitute the chief bulk of the substance called plastin. They may also be artificially prepared. 4. Nucleins which contain very little nucleic acid. They are chiefly proteid in nature and pass gradually towards proteids which contain no phosphorus whatever. They occur in the nucleus, it is difficult to be positive whether the nuclear matrix is chiefly composed of these or of phosphorus-free proteids, probably both are present. They occur in milk (caseinogen) in egg yolk (vitellin, ichthulin &c.) in aleurone grains of plants (plant vitellin) and in cell protoplasm generally (cell nucleolalbumen). The great insolubility in alkalis which characterises the nucleins of the third group is not seen in those of the fourth.

Having thus given a summary of our knowledge of the chemical structure of the nucleus I will next pass to a question which perhaps some here are asking. Has all this any practical bearing on medicine? The investigations are no doubt interesting from the scientific standpoint, they add point to the very ancient saying that we are fearfully and wonderfully made but do they help us at all in the everyday work of a physician's life? Let me preface my reply to this criticism by stating that all this knowledge is recent, and that the full practical bearing of all scientific research cannot be ascertained until a considerable time, often a very considerable time, after the theoretical standpoint has been fully

I have given prominence to Malfatti's views because they form an attempt to give a successful summary of the whole subject. Kossel however (Verhandlungen der Physiologischen Gesellschaft, Berlin, Oct. 21st 1892) strongly contests Malfatti's hypothesis that artificial nucleic acid is identical with that occurring in nature.

had been directed to the tissues of the body. Among these, in view of their importance, the nervous tissues, and especially the mass of nervous tissues in the brain and spinal cord, rank highest. Hunter also had acknowledged the importance of the brain, and hence called it the "materia vitæ concentrata." It was easily seen that it contained no fibrin, but experimental research showed also that neither the brain nor the spinal cord was of the same nature throughout all its parts. The more accurate the experiments the smaller became the region which, in the strictest sense, is the vital part, until Flourens limited it to one single spot, the knot of life ("nœud vital"). Was the unity of life found in this way? By no means. The brain is no more and no less vital than the heart, for life is present in the egg long before the brain and heart are formed, and all plants, together with an immense number of animals, possess neither the one nor the other. In the highly compound organisation of man the brain and spinal cord have a certain determining action on other parts necessary to life. Their disturbance may immediately be followed by the disturbance of other vital organs, and sudden death may ensue. But the collective death of a compound animal no more implies the local death of all its special parts than the local death of some of the latter is incompatible with the collective life of the animal. As has been well said, at the death of a compound organism there is a "primum moriens," a part which first ceases to live, then follow, at long intervals sometimes, the other organs, one after the other, up to the "ultimum moriens." Hours and days may pass between the total death of the individual and the local death of the parts. The fewer nerves a part contains, the more slowly usually does it die, I therefore consider the process of dying in the compound organism as the best illustration of the individual life of the several constituent parts, which is in its turn the first axiom necessary for the study and for the understanding of life. A long time, however, elapsed before it was possible to return to this starting point and to obtain a considerable number of supporters for the doctrine of the "vita propria." The attention of many observers was drawn to a totally different side of the question. In the last decade of the past century, about the same time that John Hunter, starting from careful anatomical investigations and exact observations of surgical practice worked out his idea of the material of life, a new system of medicine was founded in Scotland, the so-called Brownian system, which was based on quite different premisses. Brown also was a vitalist, he, too, constructed, not merely a pathological and therapeutic system of vitalism, but a physiological one, though his doctrine was dynamic in its character. There is but little to be noticed therein of the material anatomical foundation of exact medicine. It is concerned principally with contemplations of the forces of the living organism. One can understand to some extent how this happened if one keeps in view the history of the development of this extraordinary personality. I cannot go into this here, but anyhow the remarkable fact remains that the two contemporaries, Brown and Hunter, worked near each other without its appearing from their writings that they were acquainted with one another. Brown struck out his own line and stuck to it, without troubling himself about the rest of the medical world. And yet even his first work, "Elementa Medicinæ," had the effect of an earthquake, the whole European continent was shaken by it, and even the physicians of the recently opened New World bent under the yoke of revolutionary ideas, and in a few years the aspect of the whole field of medicine was entirely changed. True, the triumph was but short, the Brownian system disappeared as it had come a meteor in the starry heaven of science. There would be no reason to go into it more fully had not the impulse which he had given instigated other men, and been permanently applied by them to the true service of science. This impulse was founded on the fact that irritability, or, as Brown called it, "incitability," was thus reinstated as the starting point of the theory, but, along with this, the stimuli which set living substances in action, the "potestates incitantes," were brought to the fore. In so far that stimuli produce a state of irritation ("incitatio"), or, as Brown called it later, excitement they came to be viewed not only as the cause of health and disease, but even of life itself, for excitement, so he said, is the true cause of life. But, as excitement stands in a certain relation to the strength of the stimulus, a state of good health was only possible with a normal degree of stimulus whilst in excess or a lack of stimulus brought diseased conditions in its wake. Of course excitement is dependent also on irritability, with a certain quantity of which in the form of energy, every living being is endowed at the beginning of its life.

The division of diseases, according to the amount of vital force visible in them, into sthenic and asthenic has never been abandoned since, though acknowledged perhaps in a less precise manner, it has sometimes been brought more prominently forward and sometimes been thrown into the background. In Germany, Schönlein was the one of all others who took this doctrine as the foundation of his opinion on special cases of disease and for his guide in treatment. But the application of the Brownian principles to physiology has been of far greater importance. If life itself were dependent on external stimuli the notion of the spontaneity of vital actions, a notion still in force, must lose all significance. Certain stimuli would in that case prove to be necessary conditions of vital activity, without which life could at best be carried on in a latent form only. Certainly, even for this latent life, the question remained open, How does it come to pass and in what does it practically consist? Brown avoided this ticklish question, not without great skill, by drawing the whole attention to active life and to the stimuli which call forth action. To speak openly, science has since then deflected little, or not at all, from this guiding notion. Even now we cannot say what latent life is. We simply know that through external stimuli it may be converted into active life, and hence irritability is considered by us as the surest sign of life, not, of course, of the general life of all matter in the sense of Glisson, but of the real and individual life of special living organisms. Brown remarked, with reason, that through irritability the living substance is differentiated from the same substance in its dead condition or from any other lifeless matter. Nevertheless, neither irritability nor incitability, neither irritation nor incitation, explains the essence of the living substance, and therefore neither explains the essence of life. In Germany the physiologists especially took up this question. Among the first was Alexander von Humboldt, who in his various writings, especially in his celebrated treatise on the irritated muscle and nerve fibre, entered into the question. In the end he held fast to the assumption of a vital force. The majority of pathologists and physicians followed in his footsteps and long and fierce controversies were necessary before, nearly half a century later, the belief in a vital force was destroyed. When Dubois Reymond had demonstrated the electrical current in muscle and nerve in all its characters and, at the end of his work, had also disclosed the inadmissibility of vital force, then the venerable Humboldt formally and expressly renounced the dream of his youth, with the masterly submission of the true naturalist to the recognised natural law. The hypothesis of a vital force of life had, however, in regard to Brown's theory neither a positive nor a negative value. Johannes Müller rescued for general physiology, in which it has ever since kept its place, that which was valuable in Brown's system, the doctrine of the integrating life stimuli. The occasional stimuli which produce disease have found their place in etiology, their significance has become more and more sharply defined the more accurately we have learnt to distinguish between the causes and the essences of disease—a distinction which became more difficult as the "causæ vivæ" of diseases became known in ever increasing numbers. And now a new task has arisen—namely, to draw into our sphere of observation the life of the causative agents themselves.

The way in which pathology has tried to approach the desired goal, to fathom the living substance in its diseased conditions, has led us a great step forward. Pathological anatomy especially has opened this road. The more numerous its observations and the more it penetrated into the details of the lesions the smaller became the field of so-called general diseases. The first steps of mediæval anatomists had the effect of drawing the attention to local diseases. In the first and longest period, which one may define as that of Regionalism, the pathological anatomists sought the cause of disease in one of the larger regions or cavities of the body—in the head, chest or abdomen. In the second period, ushered in by the immortal work of Morgagni, shortly before the time of which I last spoke—the time of Brown and Hunter—they endeavoured to find in a certain region the actual organ which might be considered as the seat of disease. On this foundation arose the Parisian school of Organicism which, until late in this century, held a dominant position in pathology. In this school already they recognised that not the organ, nor even a portion of it, could be the ultimate object of research. Xavier Bichat divided the organs into tissues, and showed that in the same organ sometimes one and sometimes another tissue might be the seat of disease. From that time forward the eye of the pathological anatomist was directed chiefly to the changes in

tained in, or rather obtainable from cell protoplasm. No mucin is generally extra-cellular though of course it originates intra-cellularly. Thus it is found in the matrix of connective tissues and in the various secretions which are poured out from the cells. Nucleo-albumens, however, are not confined to cells; they are found also in secretions, caseinogen, the chief protein in milk, is one, though it has not the viscosity characteristic of those in protoplasm. The so-called mucin of the bile is another, and more recently still it has been shown that the mucino-d substance in the mucus of the urine is not mucin at all, but another nucleo-albumen shed out from the cells of the urinary tract. Coming now to the two globulins I described as obtainable from lymph cells I labeled them cell globulin C and cell globulin B. Cell globulin C is characterized by coagulating at the remarkably low temperature of from 47° to 50° C and by a readiness of precipitation by comparatively small quantities of neutral salts like magnesium sulphate or sodium chloride. Cell globulin B coagulates at a higher temperature (from 60° to 70° C in different solvents) and requires complete saturation with magnesium sulphate in order to precipitate entirely. It also possesses fibrino-plastic properties, and I felt justified in concluding that cell globulin B was the product of the disintegration of the leucocytes which has long been known under the name "fibrin-ferment." I shall have to return to this point in connexion with the subject of blood coagulation. Cell globulin S did not show the viscosity which at that time I considered as characteristic of nucleo-albumens and so I did not subject it to analysis. This, however, has been done by Peseharing of Utrecht, who finds that it is a nucleo-albumen. Whether it is a portion of the same nucleo-albumen which one obtains by the sodium chloride method or whether it is still uncertain. I have since obtained abundant evidence that many nucleo-albumens exist the solutions of which are not viscous and further that a nucleo-albumen may be made viscous by treatment in one way and may by another method be obtained without this physical characteristic. This other method is that originally employed by the late Dr. Wooldridge in the preparation of what he termed tissue fibrinogens. These substances have in recent years been the subject of numerous papers by Wright and Peseharing and both thoroughly confirm my hypothesis that the chief constituent of "tissue fibrinogen" is nucleo-albumen. By either of these methods an abundant supply of the nucleo-albumen may be obtained in fact, so great is the yield that there can be no doubt that the amount of nucleo-albumen is far in excess of the amount of globulin. I am not prepared to state positively that these substances may not in part originate from the nuclei. The nuclei when examined microscopically in the residue appear practically unaltered, they are, however, a little swollen after treatment by sodium chloride. The yield of material appears too large to come altogether from the nuclei, and moreover it is a matter of difficulty to obtain nucleo-albumens from every organ rich in nuclei. This is notably the case with the liver. One can therefore hardly resist the conclusion that the nucleo-albumen originates chiefly from the cell protoplasm.

So far I have been speaking of cells in general, but with especial reference to lymph cells, I may now pass on to the various organs and tissues to which I have now extended similar observations. The full investigation of all of these is at present incomplete, and it has been the nucleo-albumens which have generally attracted the most attention.

The Liver.—Here as one would anticipate from histological resemblances, the chemical resemblances are also very great. There is the same globulin coagulating at from 47° to 50° and an abundance of nucleo-albumen obtainable either by the sodium chloride or the acetic acid method. Indeed so abundant is the supply of the latter that for experiments on intra-vascular clotting I am in the habit of using this organ for the preparation of the material in question.

The Kidney.—Here again, the nucleo-albumen can be prepared by either method. It contains 0.37 per cent. of phosphorus. Here, also, the globulin which coagulates at from 47° to 50° C is present. Indeed, it seems that this globulin is as characteristic of cells as the nucleo-albumen itself.

The Lungs.—My results with this organ may be summed up as follows. Four proteins can be extracted from liver cells by dilute saline solutions, in all of these an albumen is present

in the mere traces, two of them are globulins differing in their heat coagulation temperatures (hepato-globulin A coagulating at from 45° to 50° C, hepato-globulin B coagulating at from 65° to 70° C) and in the readiness with which they are precipitated by neutral salts. The remaining protein is a nucleo-albumen, but the yield of nucleo-albumen is small. It may be that the liver cells contain a good deal, but the methods adopted for its extraction only get out a small quantity—indeed, the sodium chloride method of preparation is quite inefficient, one, therefore, has to fall back on Wooldridge's acetic acid method. The liver nucleo-albumen resembles that of the kidney, thymus, testis and lymph gland in producing intra-vascular coagulation, but differs from these in its heat coagulation temperature in not being rendered viscous by admixture with salt and in its high percentage of phosphorus (1.45 per cent.).

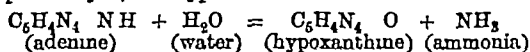
The Nervous System.—The fact is very often lost sight of how rich nervous tissues are in protein matter. Fifty per cent. of the solids in grey matter and about 50 per cent. of those in white matter are protein in nature. This was originally pointed out by Petruszky, and I have made a large number of quantitative experiments that have verified the truth of this statement. Grey matter also contains considerably more water than white matter and if one analyses any nerve tract containing both grey and white matter the amount of grey matter, of water and of protein will vary directly the one with the others. The nature of this protein next attracted my attention. If one extracts a blood-free brain or spinal cord with saline solution one obtains a solution of three proteins which are all precipitable by saturation with magnesium sulphate, and so at first I erroneously concluded they were all globulins. This error was confirmed by the fact that the sodium chloride method of extracting nucleo-albumens gave a negative result. Finding, however, that by Wooldridge's method I was able to prepare a very good supply of nucleo-albumen, especially from grey matter, which was extraordinarily active in producing intra-vascular clotting I returned once more to my three supposed globulins. The first of these coagulated at from 47° to 50° C and was precipitable by comparatively small quantities of salts. On gastric digestion it left no residue of nucleus. It therefore is a true globulin analogous to others I have already mentioned. The next protein coagulated at from 55° to 60° C. This, however, was only obtainable from grey matter, white matter yielded the mere traces. I left a considerable residue of nucleus after gastric digestion, it therefore is the nucleo-albumen, it contains 0.5 per cent. of phosphorus, the same percentage as was found in the nucleo-albumen prepared from grey matter by Wooldridge's method. The third protein which coagulated at about 70° C, was again a true globulin.

The Spleen.—This organ has been investigated by Dr. F. Gourel in my laboratory, and although his results are not yet complete he has kindly allowed me to state that he finds the proteins closely analogous to those in other cellular structures. The nucleo-albumen is capable of preparation by either method. There is also the protein present which coagulates at from 47° to 50° C. In connexion with the spleen there are other points of interest to be noted. My predecessor in his lectureship, my friend Dr. Sidney Martin, stated that in certain infective diseases the spleen is a centre for the accumulation of the protein poisons the albumoses that cause the characteristic symptoms of cachexia, tetanus and so forth. Almost simultaneously with Dr. Martin's lectures von Jaksch* stated that the normal spleen is rich in "peptones" (the word peptone as used includes proper one (proteoses or albumoses). The proteoses Dr. Martin obtained from spleens in cases of disease had certain specific actions, nevertheless appeared important to investigate the physiological action of those obtainable from normal spleens. This task has been considerably lightened by finding that the fresh spleen like other organs and tissues contains no peptones or proteoses at all. We have used the same methods as those adopted by von Jaksch, except that we have taken care that the spleens were perfectly fresh and from healthy animals. Dr. Martin has been good enough to supply as well as some he has had the opportunity of obtaining. If spleens are obtained from the bodies a small quantity of protease is usually obtainable but this is doubtless as I have already stated, formed post-mortem from the splenic cells and leucocytes.

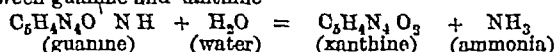
The Thymus Gland.—This organ has also been investigated by Dr. Gourel and his general results are practically identical

* Wooldridge chiefly used the substance prepared from the testis by the acetic acid method. The testis does yield an active product by the sodium chloride method also.

established. I need not weary you with instances of how scientific work which at the first blush appeared of no practical benefit to mankind has in the end proved to be full of the highest usefulness. But in the present case there are indications already that the application of our chemical knowledge of the nucleus will assist us in the elucidation of certain pathological problems, and the one to which I shall call your attention is that of the formation of uric acid. Amongst the products of decomposition of nuclein are certain nitrogenous bases, one pair is adenine and hypoxanthine, the other xanthine and guanine. Adenine has the formula $C_5H_5N_9$, on heating it with sulphuric acid, NH is replaced by O, and hypoxanthine is thus formed—



Both substances contain a radicle $C_5H_4N_4$, which Kossel terms "adenyl", adenine is its imide, hypoxanthine is its oxide. The following equation shows a similar relationship between guanine and xanthine—



Now on comparing the formulae of hypoxanthine and xanthine with that of uric acid we have $C_5H_4N_4O$ =hypoxanthine, $C_5H_4N_4O_2$ =xanthine, $C_5H_4N_4O_3$ =uric acid. In other words, here is a series of three substances, each differing from the preceding by an atom of oxygen. Leaving aside other ways in which uric acid may be and undoubtedly is formed in the organism, we have here a possible way in which, by a process of oxidation, uric acid is formed from xanthine and hypoxanthine, and thus ultimately from the nuclein of cells. This possibility has been put to the test by Horbaczewski, who has obtained very interesting positive results. This investigator is well known as one who attaches great importance to the spleen as the seat of formation of uric acid, and it is in connexion with this organ that he has performed the principal experiments in his recent researches also. He finds that by passing air through a mixture of fresh splenic pulp and defibrinated blood at from 37° to 40° C., considerable quantities of uric acid are formed, if, however, oxygen is excluded, no uric acid appears, but an equivalent portion of xanthine and hypoxanthine is formed instead. With the idea that the nuclein of the splenic cells might be the source of these products, he prepared some nuclein from spleen and obtained it in large quantities as an insoluble residue after the gastric digestion of splenic pulp. Next, in treating this as he had previously treated splenic pulp, he obtained from it either uric acid or its equivalent of xanthine and hypoxanthine according as oxygen was present or not. Passing to other organs he discovered that this was no essential property of splenic pulp or splenic nuclein, but that all organs rich in nucleated cells behaved in a precisely similar way. The next step in the investigation showed that uric acid was increased in the urine of animals after food, especially after food which, like meat, caused an increase of leucocytes in the blood. Subcutaneous injection of nuclein led to a great increase in the uric acid excreted. This occurred both in animals and in human beings, and, further, in certain cases of anaemia it was found that food caused no increase in the leucocytes. In these there was also no rise in the excretion of uric acid. The influence of drugs was also investigated. Quinine produces a fall in the number of leucocytes and a fall also in the elimination of uric acid. Atropine acts in the same way. Pilocarpine produces the opposite effects. Rather curious results were, however, obtained with antipyrin and antifebrin, they produce an increase in the number of leucocytes but a fall in the uric acid. This is explained by the hypothesis that although the leucocytes are more numerous they are not destroyed so rapidly. This explanation was controlled by microscopic examination which showed the leucocytes to be in an atrophic condition after quinine and atropine, whilst after pilocarpine they were active and undergoing karyokinetic changes. Lastly, the condition of things in various pathological conditions showed that wherever there is leucocytosis there is also an increase in the output of uric acid, and the theory that it originates from nuclein is considered to be borne out very fully. In leucocythæmia the rise in uric acid excretion is a very marked symptom, and I venture, amidst the various conflicting ideas now current as to the meaning of uric acid and the causes of variation in its amount in disease, to put forward these views of Horbaczewski as worthy the serious consideration of pathologists and physicians.

It is now, however, time to leave the nucleus and to pass to the consideration of the proteids of cell protoplasm. First with regard to its reaction. This is in the fresh state always alkaline, but after removal from the body it invariably becomes acid after a time. This acidity is in part probably chiefly due to the development of sarcos-lactic acid. It may also be partly owing to the formation of acid phosphates from the neutral phosphates of the tissue. In one tissue—namely, muscle—this change in the acid direction has long been known and probably assists in the disappearance of rigor mortis. Muscle, like many other tissues, contains a small quantity of pepsin which has been absorbed from the alimentary canal. This was pointed out by Brucke many years ago. Under ordinary circumstances there is no self-digestion of these tissues, any more than there is any self-digestion of the stomach walls. But after death, and after the development of acid, particularly if the body is kept in a warm temperature, this self-digestion does occur and small quantities of peptones and proteoses will be found. I feel inclined to believe that this self-digestion is in great measure the reason why the hardness of the muscles known as rigor mortis becomes less and less as time goes on. No doubt in many cases this is assisted by putrefactive changes, but these do not appear to be constantly present. The peptones that have been stated to occur in various tissues are thus seen to be formed post mortem. Healthy fresh tissues do not contain peptone, nor do they contain those intermediate products in the formation of peptones which are called albumoses or better, proteoses. The fresh tissues do not contain albumen either, or only in the merest traces. I have used the word albumen not in the wide sense in which it is sometimes loosely employed as synonymous with protoid, but in the stricter sense of a protoid which is soluble in water and in sodium chloride solutions of all strengths, and further one which is coagulated by heating it. I began my investigation of this subject now several years ago and selected as the starting point lymph cells obtained from lymphatic glands as a convenient instance of typical animal cells and then found three proteids, two of them globulins and the third a nucleo-albumen. We will take the nucleo-albumen first. It is a protoid which in some of its physical properties is very like mucin, it was called hyaline substance by Roida and was described also by Miescher in pus cells. It may be prepared as follows. The tissue, freed from blood and lymph, is cut into small pieces and ground up in a mortar with about an equal amount of powdered salt (I usually employ sodium chloride, but magnesium sulphate does as well). A small quantity of water is added and the whole thoroughly mixed, the resulting mass is exceedingly viscid. This mucinoid mixture is then poured into a tall vessel containing water, the globulin is precipitated in a finely flocculent condition and falls to the bottom of the vessel together with the residue of the pieces of tissue. The nucleo-albumen is precipitated throughout the water in the form of cohesive strings, which very rapidly contract and finally collect in sticky lumps which float upon the surface of the water. These are collected and thoroughly washed with large quantities of water. The substance can be purified by a repetition of the treatment with sodium chloride. Finally, it can be dissolved in a weak solution (1 to 5 per cent.) of sodium carbonate. If one has performed the manipulations rapidly the solution is complete, if one delays and leaves the protoid matter too long in contact with the sodium chloride, its solubility in dilute alkaline solutions is considerably diminished. This method of preparing nucleo-albumen I shall have frequently to allude to in the remaining portions of these lectures, and I may speak of it as the "sodium chloride method." When I first came across this remarkable substance the idea that it was mucin was regarded as not an improbable one. Mucin is a substance which is continually being formed within many cells from their protoplasm as a result of their metabolic activity. The substance is, moreover, like mucin, soluble in alkalis and precipitable from its alkaline solutions by acetic acid. Moreover, it is viscid like mucin. But, putting this to the test of experiment, one soon discovered that all is not mucin which is sticky. Mucin is a glucoside—a compound of a protoid with a carbohydrate called animal gum—and by boiling with sulphuric acid it yields a reducing sugar. This material does not do so. On gastric digestion an insoluble residue of nuclein is left behind which is identified by its reactions and especially by the high percentage of phosphorus it contains. This nucleo-albumen is not characteristic of lymph cells, but either it or a member of the same group is found wherever there are cells. It appears to be the most constant of the proteids con-

fever in which there is only a little sore throat, perhaps only a faint rash, perhaps only slight desquamation without any rash having been observed. It is open to doubt whether the limits of possibility in the way of modification have even then been reached. Since there are gradations of severity of attack, down to those which are recognised with difficulty and by indirect evidence, it becomes a question whether there may not be a continuance of the gradation below the clinical horizon altogether. A hint to this effect is given by the excessive fatality of bronchitis and pneumonia at times when measles, whooping cough or influenza have been epidemic, of kidney diseases after scarlet fever epidemics, and the like. Many of the deaths so recorded doubtless follow upon well marked attacks of the antecedent zymotic, but this can scarcely be the case with all. The "shadow wave" usually accompanies or follows closely upon the zymotic wave. The death certificates in the majority of instances would not omit a reference to a known attack—say of measles—occurring within a few weeks of the fatal issue of a case of bronchitis, especially as by hypothesis the complication which causes death is the direct outcome of the zymotic disease. If both measles and bronchitis were mentioned on the certificate the death would be credited to the former and not to the latter, preference being given to the zymotic in accordance with general rule. It would seem, therefore, that if the increased mortality attributed to respiratory disease, which accompanies and follows epidemics of measles be really due to measles, the antecedent attacks of measles must not only escape mention in the certificate, but must, as a rule, have escaped notice altogether. The number of deaths attributed to kidney diseases at ages under ten years rises and falls with the scarlet fever death rate year by year and must, therefore, follow closely upon the antecedent scarlet fever, since the latter reaches its seasonal maximum in late autumn. Had the secondary curve attained its maximum in the following year it might have been supposed that the absence of mention of scarlet fever in the certificates was due to lapse of time.

During an epidemic of influenza the general death rate increases greatly, and particularly the mortality from phthisis, respiratory diseases and heart disease. Indeed, the Registrar-General infers that in January, 1890, the deaths directly attributed to influenza were only about a sixth of those actually caused by it. Unperceived attacks may also contribute to the explanation of the immunity from certain diseases conferred by residence in localities where they are endemic. Acclimatisation seems to be almost limited to diseases of the mobile class, which are only slightly protective. Long and continuous residence in a malarious region confers some immunity, which is lessened or lost in case of temporary removal to a non malarious country. This seems to imply a necessity for constant renewal, and to negative the alternative view that the immunity is simply the expression of a natural insusceptibility, demonstrated rather than caused by the previous exposure to malaria. Something of the nature of a constantly repeated slight infection suggests itself as a possible explanation of the temporary immunity, and also of the fact that changes in the internal organs may be found in persons who have escaped any known attack. It has been observed, too, that in districts where enteric fever is endemic its incidence is disproportionately great upon newcomers older residents escaping more easily. Young troops newly quartered in certain Indian stations have been found to suffer much more heavily from enteric fever than their seniors, whilst natives are affected least of all. As regards influenza there is room for suspicion of acclimatisation in another sense, although the uncertainty as to the identity of the affections so named precludes any very definite conclusions. The well known instances of St. Kilda and Wharekauae¹ lend themselves to such an explanation. These are small insular communities far removed from ordinary traffic and it is recorded that the arrival of strangers is almost always followed by the rapid diffusion of a catarrhal illness amongst the inhabitants, no matter whether the newcomers are or are not suffering from any catarrhal or other symptoms. Assuming the malady to be the same time after time, it would seem not to be lastingly protective, since the outbreak is repeated upon each new arrival, nor is it capable of establishing itself upon a permanent footing. It seems clear, too, that the islanders are more susceptible than the visitors. If it be granted that amongst the many kinds of cold, catarrh and febricula which are prevalent in all large communities

there are some which are infectious and slightly protective, and readily capable, moreover, of attenuation and intensification, the exaggerated susceptibility of secluded islanders is not difficult to explain. The strangers are "acclimatised" to the disease they bring, but the islanders are not.

Amongst diseases of fixed type the interval between epidemics may be bridged over by sporadic cases or the disease may disappear altogether and await reintroduction. There are other possibilities as regards the opposite group. Some of them may lurk in outside media, for periods to which it is difficult to assign any limit, or the continuity may be eked out by attacks in lower animals. Farther than this, the disease may assume and retain a mild type, so mild, it may be, as to escape recognition. The modified attacks, which are readily identified when they occur in association with severer forms during an epidemic are less so when they occur alone. Diphtheria, erysipelas, influenza and pneumonia have already been referred to in this connexion. Murchison says of typhus fever "It is probable that many cases of so called febricula, where the fever only lasts for two or three days and is not attended by rash, occasionally result from a small dose of the typhus poison, at all events, cases answering to this description sometimes occur in the same family, and at the same time, as true typhus." Occasionally in crowded manufacturing towns and villages we meet with typhus fever outbreaks which at the present day we cannot suppose to have arisen *de novo*, but which seem to have had their beginnings in cases of illness which, apart from subsequent history of typhus fever, would have received no name more definite than febricula or simple continued fever. Mr Spear directed attention to the occurrence of a mild form of typhus fever amongst children in connexion with such outbreaks, and Dr Theodore Thomson has suggested as probable "the more or less universal existence of a specific organism which under ordinary conditions does not develop sufficiently to display its potential infectivity, but which under special conditions may so develop."² Amongst diseases of more constant type the modification never goes so far as to cause doubt of their identity, except in individual attacks where the resistance is high.

The varying quality of epidemic diseases has to be taken into account in all epidemiological inquiries. The relation of scarlet fever to rainfall may serve as an example. Dr Longstaff has shown that, broadly speaking, scarlet fever is most fatal in years when the rainfall is low, and least fatal in years of high rainfall. The recognition of varying phases of virulence makes the relation still more close, for it enables us to account for the occasional occurrence of high mortality in wet years and low mortality in dry years. Other things being equal, the greater prevalence in dry years will bring about higher mortality, but, as the percentage of fatal attacks varies from 1 to 15 prevalence is not the only important consideration. There is, however, some reason to suspect that the cycle of severity as well as the varying prevalence may have a direct or indirect relation to run, but, at best, annual totals of rainfall are very crude data. The necessity for much more measured detail is shown by the fact that the mean annual curve of rainfall attains its maximum (not minimum) at the same time as the scarlet fever curve.

Attempts are constantly made to estimate the effects of preventive measures by comparison of periods before and after their adoption. For want of a better basis, death rates are often used as a measure of prevalence, on the tacit assumption that the case mortality and type remain constant—an assumption which is far from being sound, and in taking the mean of a number of years as representing the average mortality from a given disease some regard must be paid to its cycles of increasing and lessening energy. It would be unsafe to draw conclusions as to the effect of preventive measures upon scarlet fever for example, from the comparison of periods shorter than fifteen years, seeing that until lately the tendency was to a cycle five or six years in duration, and as each successive wave after 1870 was lower than its predecessor and the rhythm has now ceased to be evident other elements of uncertainty come in. For the real question at issue is Has the course of the disease been different to that which it would have followed had the supposed preventive measures not been adopted? It is scarcely possible to answer this question by crude statistics of deaths, for quality as well as quantity have changed and social as well as climatic influences are far from constant.

¹ Dr Parsons Report on the Influenza Epidemic of 1892-93, p. 84

² Public Health, May, 1890.

with those just mentioned. There is, however, this point about the thyroid: it is possible that the colloid matter in the vesicles is a nucleo-albumen, or the source of the very active nucleo-albumen which is obtainable from this organ. Here micro chemistry in the shape of the phosphorus reaction introduced by Lilienfeld and Monti has come to the rescue. We tested the method in some preliminary experiments with sections of the thymus. We found the cells, and especially their nuclei, stained a brown colour, the corpuscles of Hassall were more deeply pigmented than the rest, the circumferential regions of the alveoli were more deeply stained than their interiors. The muscular coats of the small vessels also stood out very prominently. Having in this way convinced our selves of the applicability of the new method, we proceeded to a similar investigation of the thyroid. We found that the colloid matter stains as deeply as the cells and that it is probably a nucleo-albumen. The colouration is not due to lecithin, as after the sections have been treated with alcohol the colloid material still gives the reaction. This view is confirmed by the fact that we have been unable to get a reducing sugar by treating the thyroid with sulphuric acid. The thyroid is an organ which is just now attracting much attention, and we can only hope that these investigations may throw some light on the question to which of its constituents is the wonderful curative effect of thyroid juice in myxœdema due?

Muscle—This tissue has been studied by Mr Whitfield, medical registrar to King's College Hospital. He has especially investigated the question whether this tissue contains nucleo-albumen, his work is not yet complete, but I may mention that he has hitherto obtained only negative results.

The practical importance of investigations on cell protoplasm seems to me to lie chiefly in the fact that it is impossible properly to understand the phenomena of phagocytosis and chemotaxis until we know the chemical composition of cells. Another path into which these investigations lead is the question of the protective proteids and immunity generally. The alexines or protective proteids are related to, if not identical with, cell globulin β (now shown to be a nucleo-albumen), and this line of research has been followed, with valuable results, by Hankin, Bachner and others. But they have led me into still another channel—namely, into a renewed investigation of the question of blood coagulation, and it is this subject that I propose to discuss in my third lecture.

The Milroy Lectures

ON

CHANGES OF TYPE IN EPIDEMIC DISEASES.

LECTURE IV

Delivered at the Examination Hall, Victoria Embankment, on March 2nd, 1893

By B. A. WHITELEGGE, M.D., B.Sc. LOND

Accumulation of Susceptible Persons—Varying Susceptibility of Individuals and of Classes—Limits of Attenuation—Unperceived Attacks—Acclimatisation.—Inter epidemic Conditions—Difficulty of Measuring Influence of External Conditions—Summary

MR. PRESIDENT AND GENTLEMEN,—Amongst the influences which promote or check the growth of an epidemic are those which bring about accumulation or lessening of the susceptible units in the population. This accumulation varies in meaning. As regards malarial fevers, it simply implies that a number of persons susceptible to malaria of a given degree of intensity are placed within range of the miasma. Proximity of person to person has no apparent importance in itself. In the next group, including diphtheria and erysipelas, concentration of susceptible persons becomes significant, as well as their individual exposure to infection. Not only may they become infected one from another as well as from non living media in which the contagium is able to exist, but if their proximity be sufficiently close (in school or in hospital, for example) it seems that the poison may become intensified, increasing in virulence as well as in quantity. In diseases of more stable type, such as small pox and measles, the effect

of accumulation is again simple. It is a matter of greater or less facility of transmitting infection from A to B. But at every point other controlling conditions are in operation. The sufficiency of accumulation is dependent upon the constantly changing seasonal or "accidental" conditions of weather, upon school influences and other social factors, and upon intentional or unintentional precautions in the way of isolation of the sick. Moreover, the power of the contagium to overcome obstructions to its diffusion may be variable in its different phases of intensity. And, lastly, susceptibility is a relative term, not constant in itself as regards either individuals or populations and dependent further upon the potency of the contagium. Susceptibility to a severe epidemic type does not necessarily imply any susceptibility to a milder phase of the same disease, nor is it constant in a given person under different conditions or at different ages. In small pox, for instance, there are all degrees of susceptibility, from complete absence of natural or acquired immunity down to a vanishing point amongst those who have recently been vaccinated or who have recently recovered from small pox. The different classes are exposed to the same infection, and it is found that, as the protection—measured in terms of more or less vaccination, more or less recent—diminishes so does the liability to attack increase, and with the liability to attack the average severity of attack. Notwithstanding the assumed constancy of type, we find mild and fatal attacks side by side and infected one from the other. The mild case is mild not because of any attenuation of the virus, but because the resistance is great, and, so far as small pox is concerned, it seems to make little difference in the character of attack whether the infection be derived from a slight or severe previous case. The epidemic type is masked, but not altered, by the resistance of the individual. This can scarcely be affirmed as regards diseases of mobile type, such as diphtheria, and it is doubtful whether it is so in scarlet fever.

It is not always a simple matter to determine the relative susceptibility of different classes of persons—for example, the two sexes. Mortality returns show that whilst most zymotic diseases kill more males than females, the balance is reversed in diphtheria and whooping cough. The conclusions naturally suggested by these data are somewhat modified by the observation that the attack rate by no means necessarily corresponds to the death rate if calculated for the two sexes separately.

Metropolitan Asylums Board Hospitals, 1871-91

Malady	Sex	Cases.	Deaths.	Case mortality
Scarlet fever	Male	10,881	2,061	19.3
	Female	22,224	1,893	8.5
Enteric fever	Male	4,041	670	16.7
	Female	3,674	662	17.3
Typhus fever	Male	961	216	22.4
	Female	1,176	217	18.5
Diphtheria (1888 to 1891)	Male	1,367	478	35.2
	Female	1,715	555	32.4

Scarlet fever, diphtheria and typhus fever attack more females than males, but the case mortality is higher amongst the latter, and, conversely, enteric fever shows a heavier incidence upon males, coupled with a lower case mortality. In each instance the greater incidence is associated with the lesser fatality. This raises a suspicion of unequal facilities for infection, of "super added waves," and more detailed information is needed before the true relation of sex to these diseases can be finally established. To take another example, the greatest incidence of attacks of scarlet fever is in the fifth year of life, but the greatest case mortality is in the second year. Possibly the difference may prove to be due to some unequal exposure to infection, which up to five years of age brings about a greater and greater liability to attack, notwithstanding a lessening susceptibility. After the fifth year, it may be supposed, the increasing exposure is no longer able to counteract the still increasing immunity, and the incidence of attack grows less year by year.

Whether from high resistance, as in small pox, or from low infectiveness, as in diseases of inconstant type, attacks occur which are so slight as to be scarcely recognisable. Such for example, are the slight forms of small pox, with perhaps only one or two doubtful papules, the slight forms of diphtheria which are indistinguishable from simple sore-throat, and which are only diagnosed on giving rise to diphtheria in others or on being followed by paralytic sequelæ. Such, too, are the slight cases of typhus fever which pass for "febricula" or "simple continued fever," and the slight cases of scarlet

long in developing. There was a history of a fall from a perambulator when some months old, but I do not think much importance is to be attached to this. Her rate of growth had been about one inch annually. As regards the history of former treatment, the parents had seen several consultants. No medicines, of course, had caused any improvement, but general massage seemed to have brought about some amelioration. Up till April, 1892, any treatment I employed was on account of some special symptom—e.g., eczema, which was very troublesome, or constipation or other complication.

Treatment—In April, 1892, I got the parents to consent to try the effect of the hypodermic injection of thyroid extract. I began with ten minims twice a week, but after about twelve injections the mother found that the child was restless, irritable and sleepless, and apparently worse after the injections. Accordingly I reduced the injection to ten minims weekly, there after every second week, and on three occasions left four weeks between the injections. This brings us down to October, when I began the feeding with the raw gland, giving half a lobe per week at first, then, after two weeks one lobe per week, when I tried two lobes one week, and by this time found the temperature normal, but the child was evidently "out of sorts," so the amount was reduced to one

appearance after nine months' treatment, six months by hypodermic injection and three months by feeding with raw gland. During the nine months the child has grown fully four inches, the supra-clavicular pads have quite disappeared, the appetite has improved amazingly, her dietary being a much larger one now, the constipation is gone, the umbilicus no longer protrudes, and there is no tendency to eczema. The temperature remains at about 97° F. The improvement is such that a friend and regular visitor at the house, who had been absent for some weeks, on seeing the child, did not recognise her, and thinking she was a stranger asked whose child she was. One point I may mention—namely, that prior to the thyroid treatment there frequently appeared a dark, almost black, part on the scalp, which after increasing in depth of colour came away in scales. I judged it to be a coloured sebaceous secretion.

I have also had two cases of myxœdema in adults which I treated with extract and feeding, with markedly beneficial results, but many such cases have already been reported.

London-street, Edinburgh

THE CHOLERA EPIDEMIC IN RUSSIA

By FRANK CLEWOW, M D EDIN & C

NO I.

IN CENTRAL ASIA AND SIBERIA.

(Continued from p 516)

IN marked contrast with the comparative intensity of the epidemic in Ural'sk was its mildness in the province of Turgai, lying immediately adjacent on the east. The first cases were reported from there on July 24th, and the whole province escaped with the small loss of 296 cases with 167 deaths. The inhabitants of both these provinces are mostly Kirghiz and Kalmuck Tartars, living a more or less nomadic life. Their water supply is derived from rivers and wells, the river water is said to be of satisfactory quality, but the well water is less so, whilst in the dry season the tribes drink extremely polluted water from lakes, not, however, without a rough process of filtration or, rather, straining. As early as July 14th cases were reported from Omsk and the large district of which it is the principal town. This district contains the three provinces of Akmolinsk, Semipalatinsk and Semiretchinsk, and is known officially as the General Governorship of the Steppes. The numbers of cases and deaths were at no time very high from any of these provinces, of which Akmolinsk was the greatest sufferer. The totals for the whole of this immense district were only 2133 cases with 1124 deaths, representing a case-rate of 118 and a death rate of 62 per 100,000. These figures sink into insignificance when compared with those of the neighbouring province on the north. In this province, the government of Tobolsk, the epidemic raged with great violence. The first cases occurred on July 17th, and the total number reported was 26,301, of which 12,729 proved fatal, the proportion of cases and deaths to the population being expressed by the figures 1865 and 903 respectively. In the middle of July cases of cholera were reported amongst exile prisoners in the town of Tomsk, and from this distant government there were, in all 4697 cases and 2272 deaths. Finally, the disease was reported from Irkutsk on Aug 2nd and from Yeniseisk on the 4th but in neither of these northerly governments did it attain any hold.

The following table gives the numbers of cases and deaths, the proportion of both to the population, and the ratio of deaths to cases in each division of Asiatic Russia beyond the Caspian Sea during the whole course of the epidemic. For these figures as well as for much valuable material and information, I am indebted to Dr Ragozin, the Director of the Medical Department of the Ministry of the Interior, whilst for kindly revising and verifying all the statistics given in this paper my thanks are due to Dr Grebentschikoff, the head of the statistical division of the same Department.



lobe a week and was continued at this till recently, when one lobe and a half were given. It was administered in cool beef tea.

The result of the thyroid treatment was continuous improvement. After the first few injections the appearance of the child had completely changed, there was a marked diminution in the size of the abdomen, so that a bodice which fitted before the commencement of this treatment now overlapped by four or five inches. The thick lips and alae nasi were now of normal size, the skin was pliant and soft, the temperature to touch improved, and the hair apparently more healthy, though still sparse. As week by week passed some mark of improvement was always seen. In October the child began to walk, and soon was running about and even walking long distances. The head smaller to appearance, became covered with a fine crop of healthy hair. Marked improvement in intelligence was seen in many little actions. The engraving from the second photograph shows the patient's

As regards small pox and vaccination we can measure results far more accurately, for although the intensity changes and climatic conditions are inconstant the course of events under the old and new order of things can be observed concurrently year by year and day by day, and it is this fact which makes the protective influence of vaccination perhaps the most clearly established of all points in preventive medicine. In every epidemic the two classes, the unprotected and the artificially protected, can be observed side by side, under like conditions. But even in regard to small pox the change of type has led to fallacy. At Leicester it has been alleged that with speedy isolation of persons attacked, and quarantine of those exposed to infection, small pox may be held in check, and that vaccination is unnecessary even if beneficial. The proof advanced is that small pox has not succeeded until lately in spreading amongst the imperfectly vaccinated population of Leicester. Many fallacies in this line of reasoning have long ago been pointed out. It ignores the assistance rendered by vaccination, even in Leicester. It presupposes early knowledge of all cases, however slight, compulsory isolation and quarantine, and the observance of a like thorough policy in all other localities, rural as well as urban. And further, if Leicester escaped because it had and used means of isolation and quarantine, how are we to account for the temporary escape of Keighley? A more probable explanation seems to be that the Leicester experiment with isolation and the Keighley experiment without it have only been tried during years of low intensity when small pox has scarcely been able to hold its ground in any part of England. Epidemic centres have been few, the chances of repeated importation comparatively small, and the power of diffusion slight. The real test has still to come, when the conditions are altered, as they seem likely to be within the next few years. It is not enough to introduce small pox amongst a population imperfectly protected by vaccination. That the recently vaccinated will not take small pox is certain, but it is not equally certain that the unprotected will at once be attacked. Something depends upon the quality of the small pox itself and it cannot safely be assumed that its power of epidemic spread is always the same, even if equal facilities be afforded.

Underlying all that mere death rates or even mere attack-rates can teach us there is a variable type of disease, only imperfectly shown by such records.

SUMMARY

1 Epidemic prevalence may be brought about either by increased potency of the disease itself or by increased mechanical facilities for diffusion.

2 Epidemics of the latter class, including water epidemics, milk epidemics and, as a rule, seasonal prevalence, are attended with lowered case mortality, because the conditions under which they occur imply a lessened average susceptibility and therefore a less severe average attack.

3 Underlying all great epidemics there is a change of epidemic type, a change in the quality of the disease itself.

4 There is evidence of a like change on a smaller scale in most, if not all, epidemic diseases, the intensity rising and falling at intervals which are not necessarily uniform for the same disease and are very different in different diseases.

5 Whether on the larger or smaller scale, the intensification is marked by greater severity of attack, greater power of overcoming comparative insusceptibility, and greater power of epidemic diffusion.

6 Whilst some diseases are capable of rapid or even abrupt changes in intensity, others are not, and this distinction serves to mark off broadly two principal groups, those which are mobile and those which are comparatively constant in type.

7 The first group, that of diseases which are capable of most rapid change in type, includes those which are most nearly allied to saprophytic life, most readily cultivated in artificial media, most dependent upon filthy conditions, most liable to infect soil, water, milk and lower animals, most liable to relapses, and least protective.

8 Diseases of this class may be highly modified, and some of them may assume and maintain a form so slight that their true character is unrecognised.

9 Under favourable conditions their intensity may slowly or suddenly increase, giving rise to epidemics of severer type.

10 Amongst diseases of this class an epidemic normally begins and ends with the milder forms, the more severe attacks occurring at the time of greatest prevalence. The severity and prevalence rise and fall together.

11 In the second group, amongst diseases of more fixed character extreme modification of epidemic type does not occur, but individual attacks may be extremely mild owing to high resistance.

12 Amongst such diseases there is evidence of a rise and fall of intensity if the epidemic course be traced for a term of years, perhaps covering several minor epidemics.

13 In these brief outbursts of diseases of more constant type there is little if any change of intensity comparable to that of the mobile class, the prevalence being determined and controlled mainly by external conditions, but the type being that of the prevailing phase of a broad cycle.

CRETINISM TREATED BY THE HYPODERMIC INJECTION OF THYROID EXTRACT AND BY FEEDING

BY EDWARD CARMICHAEL, M D EDIN & C.

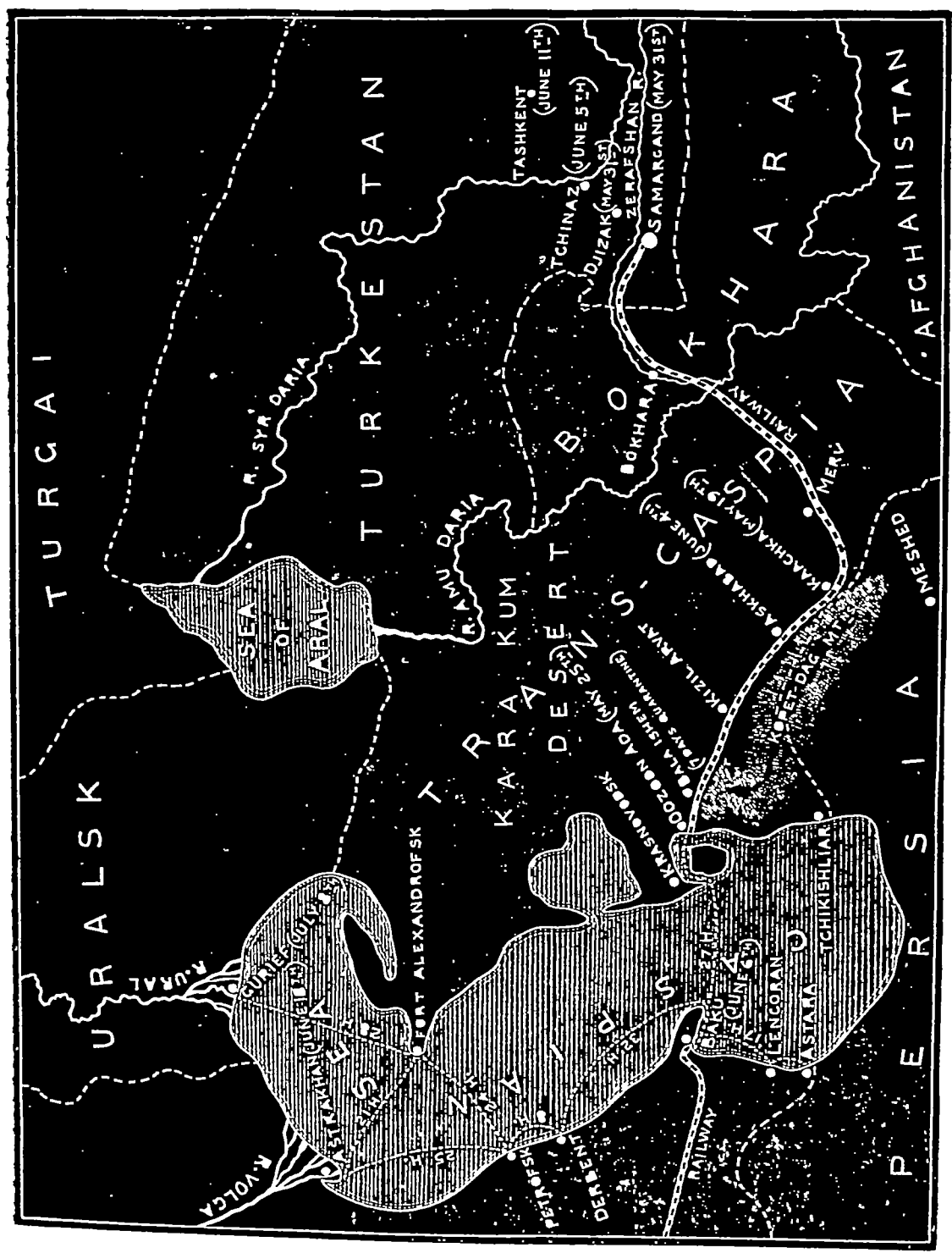
ALTHOUGH several cases of myxœdema treated by thyroid extract and feeding have been reported, as also a case or two of cretinism by transplantation of the thyroid, few, if any, cases of the latter disease have been recorded as treated by the hypodermic injection of thyroid extract and feeding. I therefore desire to state briefly the following regarding a case which has been under my care. When first asked to see the patient some three years ago I found her very much as the engraving from the first photograph represents. Although between five and six years of age, she was like an infant, her features were broad and massive, her skin was dry and harsh, her abdomen prominent, the umbilicus protruding



or rather kept in position by plaster, the supra-clavicular pads of fat well marked, and the hair sparse, dry and unhealthy—as was remarked, “she had no hair at all.” She made no attempt to walk. Her intelligence was very feeble, although she recognised faces and was capable of showing affection towards her parents. Her appetite was extremely capricious, and if the nurse tried to give her a meal she did not care for it was immediately vomited. Obstinate constipation was present, relieved, however, by massage with castor oil. The temperature was always low, but on account of the difficulty of taking it I can give no consecutive table, on several occasions it was about 96° F, sometimes lower.

History.—The child from birth had been slow in action and in vital powers—e.g., vaccination was particularly

MAP OF CENTRAL ASIATIC RUSSIA



The dates indicate the occurrence of the first case of cholera. The dotted lines on the Caspian Sea mark the steamer routes, the length of time of crossing is marked against each route in hours. The total length of the Transcaspian Railway is 900 miles

Table of the Cholera Epidemic in Asiatic Russia, excluding the Caucasus, from the beginning of the Epidemic to Nov 1st (Old Style)

Province	Cases.	Deaths	PER 100 000 POPULATION		Percentage of deaths to cases
			Cases	Deaths.	
Turkestan—					
Syr Daria Prov	12,455	8,785	1 088	732	70.5
Samarcand "	14 950*	7,450	2,138	1,069	—
Fergana "	19 820*	9 610	2,415	1,207	—
Transcaspia "	2,500	1,517	400	217	54
Uralak "	6,135	3,119	1 023	524	50.8
Turgai "	296	167	74	42	56.5
Akmollinsk	2,133	1,124	118	62	52.5
Semipalatinsk					
Semiretchinsk					
Total for Central Asiatic Russia	58,099	31,802	—	—	54.7
Tobolsk	26 301	12,729	1,865	903	48.4
Tomsk	4 697	2,272	845	167	48.3
Yeniseisk	50	20	10	4	40
Irkutsk	28	8	7	2	28.6
Total for Siberia	31 076	15 029	—	—	48.4
Total for Asiatic Russia, without the Caucasus	89,175	46,831	—	—	52.5

* Calculated from the return of deaths, supposing a 50 per cent death rate.

From these figures it will be noted that the intensity of the cholera process, indicated by the proportion of fatal cases, has borne no constant relation to the intensity of the epidemic, as shown by the proportion of population attacked by the disease. Thus in Transcaspia, where out of every 100,000 inhabitants 400 suffered from cholera, 54 per cent. of the cases proved fatal, whilst in Tobolsk, where out of the same number of inhabitants 1865 persons, or nearly five times as many as in Transcaspia, suffered from the disease, only 48.4 per cent. of the cases succumbed. The extraordinarily high death rate of 70.5 in the Syr Daria province cannot but raise the suspicion that many cases which recovered have not been reported from this district.

I turn now to the measures taken by the Government and by the local authorities to prevent the spread of the epidemic. On Feb 28th the Ministry of the Interior received news of the existence of cholera in Herat, and, fearing its spread to Meshed, sent certain Russian physicians into Persia to watch the course of the disease and communicate its movements to the central authorities. Later on a Government order was issued to form a sanitary cordon along the Persian and Afghan frontiers, and as far as possible every one who passed them was subjected to a medical inspection and at once isolated if he showed any suspicious symptoms. At stations on the Transcaspian Railway accommodation was ordered to be prepared for the isolation of patients attacked in the trains. As soon as cholera was reported to be present in Meshed pilgrimages were ordered to be stopped, and a Russian physician was sent to Astrabad to concert measures with the Persian authorities in order to protect the frontier. These measures, however, proved futile, and the disease rapidly spread to Russian soil. Further efforts were made to check the epidemic, and a quarantine of seven days at Bala Ishem, the third station from the Caspian end of the railway, would, it was fondly hoped, prevent the disease spreading to the shores of the Caspian Sea, and so to European Russia. At the same time, since the large town of Ashkhabad received of necessity much of its food supply from the neighbouring province of Khorassan, a strict inspection of all grain, flour and dairy produce was ordered to be carried out at the frontier town of Gaudak. Measures were also taken beyond Samarcand at the eastern terminus of the line. At Tchinnaz, on the Syr Daria river, an "observation point" was established and provided with twenty beds under the charge of a doctor and three feldschers.¹ All passengers to Tashkent were examined here, and anyone with any gastro intestinal irregularity was forbidden to cross the river and was kept under observation. As

stated before, this measure also proved without avail, and Tashkent was affected on June 11th.

It may be noted that the Central Asian provinces are under the entire control of the Minister of War, and for all measures in this part of the country he alone is responsible. On the Caspian Sea the naval authorities are paramount, but the eastern coasts of this sea are under the military authorities, whilst for any measures concerning the southern or Persian shores the Foreign Minister has to concert with the Persian authorities, and on the western shores the co-operation of the Minister of War and of the Governor General of the Caucasus is necessary. For all matters concerning railroads and waterways the Minister of Ways and Communications is responsible, whilst regulations concerning the traffic of goods touch the domain of the Minister of Finance. Finally, a vast number of affairs relating to domestic organisation are under the control of the Minister of the Interior. From these various authorities, but more particularly from the Ministers of War, of Ways and Communications, and of the Interior, a number of detailed instructions were issued, which have since been collected and published in one volume, together with the more important regulations of recent years which still remain in force with regard to cholera. It has been stated in some English papers, with a recklessness not infrequent where Russia is concerned, that the measures taken by the authorities at St Petersburg were inefficient, and that they only "woke up to a sense of their responsibilities" when cholera was already within their borders. Anyone who reads impartially the circulars and instructions in this volume will see at once the groundlessness of these accusations. The danger of the introduction of cholera from Afghanistan or from Persia into Russian territory has long been recognised, and there are in constant force a number of orders and regulations for the prevention and treatment of the disease, not only amongst the troops, but also amongst the civil population,² whilst, as stated before, upon the first intimation of the existence of cholera in Herat, and later, upon its outbreak in Meshed, a series of important special measures was ordered to be carried out to prevent its passing the frontier. The fact that these measures did not prevent the introduction of the disease into the country must be explained rather by the possible failure of local agents to carry out the instructions, by the extreme difficulty of guarding a long land frontier, by the utter absence of hygiene or sanitation not only on the foreign side of the frontier but also amongst the population of the Russian territory, and finally by the nature of the country and its enormous distance from the central controlling authorities at St Petersburg. It might have been hoped that the Caspian Sea would prove a natural protective barrier for European Russia, and that strict measures of inspection, isolation and disinfection at ports around this sea would be as effective as similar measures have proved to be on the English coasts during the past summer.

This article may be appropriately closed by briefly relating the measures taken by the Russian authorities on the Caspian Sea. The order of the Ministry of the Interior of Sept. 12th, 1884, which insisted on fourteen days' quarantine on all ships coming to Russian ports from countries infected with cholera, was not acted on, but a new order was issued from the same authority on May 27th, 1892, which may be summarised as follows.—The three ports of Astrakhan, Baku and Oozoon Ada are the most important on the Caspian Sea and represent the north, west and east coasts respectively. Any case of cholera on a ship or in any port on the sea was ordered to be immediately reported to the Government authorities at each of these towns. The patient or patients were to be removed immediately to the nearest cholera hospital. Of such hospitals eleven either existed or were constructed at different ports around the sea—viz., Astrakhan, Lencorin, Baku, Petrovsk, Derbent, Gurief, Fort Alexandrovsk, Krasnovodsk, Oozoon Ada, Tchikhiljar and Astrakhan. All the belongings of the patients were ordered to be either thoroughly disinfected or burnt, and the ship with the passengers had to remain in

² The following are some of the orders in constant force. Prikaz of the War Department, April 27th 1885. Instructions as to the means of preventing and limiting the spread of cholera in the army and as to disinfection. Prikaz of the War Department, June 10th 1889. On the construction of cholera wards. Prikaz of the War Department Jan. 26th 1891. Instructions on the appearance of cholera in the army. From the Ministry of the Interior, Sept. 12th, 1884. Instructions for the sanitary control and cleansing of vessels coming from countries infected with cholera. From the Ministry of the Interior Feb. 13th 1889. Special regulations for Black Sea ports. From the Ministry of the Interior, Aug. 31st, 1890. Rules for the sanitary supervision of river navigation in times of cholera.

¹ A feldscher is a male attendant who has undergone a course of training in hospital. The full course extends over four years.

perineal route, a supra pubic opening affords better access to the tumour, gives more room for the necessary manipulations, and in cases where there is a deep perineum, contracted pelvis, or enlarged prostate it is the only method that is practicable. As a means of exploring the bladder in cases where the diagnosis is not certain respecting the simple or malignant nature of a growth, it also possesses great advantages, and if the growth is not removable and it is desirable simply to drain the bladder, as in Case 6, my experience of the two methods of drainage—supra pubic and perineal—is that the former is by far the most satisfactory, one advantage being that the opening in the vesical wall is made at a spot away from the seat of the disease, which, when of a malignant nature, usually affects the inferior fundus of the bladder.

Stone.—In six cases (Cases 3, 10, 11, 12, 15 and 16) the operation was performed for the removal of vesical calculi, and with the exception of one case (Case 3) all were successful. In this instance, again—one of my earliest supra pubic operations and, I may also add, the only case of lithotomy I have ever lost—the bladder wound was sutured. All went on satisfactorily for a few days, when the bladder began to leak

in a deep post-prostatic pouch. In one of these cases (Case 15), that of a patient under the care of Mr. Higginson of Bolton, I had four months previously attempted to perform lithotomy, but though a considerable portion of the stone was crushed and removed the operation was left uncompleted at the end of an hour the patient, who was an extremely stout subject, not bearing the anæsthetic at all well and beginning to show signs of collapse.

A question which naturally suggests itself is this: What are the indications for the selection of the supra pubic operation in cases of stone? Every surgeon will probably allow that, with the improved instruments which we now have, most calculi occurring in adults are capable of being removed by lithotomy, and I am myself of opinion that the same rule holds good in the case of children, my last six cases of stone in boys under ten years of age having been treated successfully by crushing. Up to the present time I have operated upon forty-two cases of calculus vesicæ (thirty-eight males and four females) and in the thirty-eight males lithotomy has been performed on seventeen and lithotomy on twenty-one occasions. In illustration of the fact that lithotomy has of late

CASES OF SUPRA-PUBIC CYSTOTOMY

No.	Date.	Age.	Condition.	Nature of operation.	Result.	Remarks.
1	May, 1858.	41	Tumour papilloma.	Removal of tumour	Recovered.	—
2	June, "	58	Tumour papilloma.	Removal of tumour	Died.	Acute septicæmia death on tenth day
3	Nov., "	8	Calculus.	Lithotomy	Died.	Bladder sutured leakage of urine, pelvic cellulitis.
4	March 1857	46	Cystitis tuberculous.	Drainage.	Died.	General tuberculosis death from exhaustion on second day
5	June	67	Tumour papilloma.	Removal of tumour	Died.	Acute peritonitis death on third day
6	Feb., 1858.	35	Tumour epithelioma.	Drainage	Recovered.	Drainage through supra pubic fistula, when last seen, six months subsequently
7	Sept., "	62	Retention of urine due to malignant disease of prostate	Drainage.	Died.	Death from exhaustion on second day
8	Feb., 1890.	66	Retention of urine due to hypertrophy of prostate	Prostatectomy	Recovered.	Recovered power of voluntary micturition.
9	July, "	69	Retention of urine, due to hypertrophy of prostate	Prostatectomy	Recovered.	Recovered power of voluntary micturition.
10	Oct., "	18	Calculus of large size.	Lithotomy	Recovered.	—
11	May 1891.	49	Calculi encysted.	Lithotomy	Recovered.	Prostatectomy also performed.
12	Sept., "	63	Calculi three in post-prostatic pouch.	Lithotomy	Recovered.	Prostatectomy also performed.
13	Feb., 1892.	56	Tumour papilloma.	Removal of tumour	Recovered.	—
14	July, "	52	Retention of urine due to stricture and hypertrophy of prostate	Drainage	Recovered.	Recovered power of voluntary micturition.
15	Aug., "	52	Calculus in post-prostatic pouch	Lithotomy	Recovered.	—
16	Aug., "	38	Calculus in post-prostatic pouch.	Lithotomy	Recovered.	—
17	Nov., "	70	Retention of urine due to hypertrophy of prostate.	Drainage.	Recovered.	Recovered power of voluntary micturition.

and, the superficial wound having almost closed, the urine, being unable to escape externally, infiltrated the surrounding tissues setting up pelvic cellulitis, which proved fatal. This case taught me a lesson which has been of use—viz., never to attempt to procure primary union by suturing the opening in the bladder wall. In Case 10 the stone was of hard consistency and of large size, measuring over one inch and a half in diameter. In Case 11 that of a gentleman sent to me by Mr. Anderson of New Mills the symptoms were somewhat obscure. I had diagnosed a prostatic calculus on account of the excruciating pain and spasm of the neck of the bladder from which the patient suffered on attempts to micturate, which was so severe that he had passed no urine, except with a catheter, for more than two years. On opening the bladder a small stone was found lying loose in its interior whilst encysted in a small pouch the size of a walnut which was situated behind the prostate and communicated with the cavity of the bladder by a narrow neck: there was a collection of more small calculi. In Cases 12, 15 and 16 there was considerable enlargement of the prostate gland the calculi in each instance lying

years to a great extent superseded lithotomy, I may mention that, whereas in my first nineteen cases there were fifteen lithotomies and four lithotrities in my last nineteen cases, operated upon during the past three years, there were six lithotomies and thirteen lithotrities, a cutting operation only being performed when crushing was contraindicated by the size and hard nature of the stone, or by the fact that it was encysted or associated with considerable enlargement of the prostate gland. It is under these circumstances that the supra pubic method is indicated for I am of opinion that if a stone cannot be successfully crushed the same conditions are generally opposed to the performance of the lateral operation. In illustration of this fact I may refer again to my last five lithotomies all of which were supra pubic (Cases 10, 11, 12, 15 and 16) the conditions which were present, and which I have mentioned, precluding the successful performance either of lithotomy or lateral lithotomy. I believe that the days of lateral lithotomy, which I have only performed once in my last twenty-one operations for stone are numbered and that it will soon become an operation of the

quarantine for fourteen days and undergo a strict process of cleansing and disinfection. No vessel was permitted to carry passengers without having a medical man on board. If he declared the ship to be free from disease, and if on inspection all on board were found to be in good health, the ship was immediately allowed free *pratique*. Passengers were forbidden to take on board any dirty linen, clothes or bedding, these had to be washed, and if necessary disinfected. There are further instructions as to cleanliness on board and the disinfection of closets &c., rules for coasting vessels, arrangements as to the medical *personnel* of the cholera stations and for the provision of means for bacteriological investigation. It may be noted that in Russia there is complete acceptance of the proposition that cholera is due to the comma bacillus. One of the first circulars¹ issued contained a series of instructions as to the best means of staining and cultivating the bacillus, accompanied by photographic illustrations and a list of German authorities to be consulted on the subject. Early in June a number of Government and local measures were undertaken to prevent the epidemic spreading up the Volga and into the Caucasus. A considerable amount of activity was displayed by the authorities in Astrakhan and was conspicuous by its absence amongst the authorities in Baku, but these matters must be reserved for a second paper devoted to a consideration of the epidemic in the Caucasus.

STRANGULATED INGUINAL HERNIA (LEFT) IN AN INFANT AGED EIGHT MONTHS, OPERATION, COMPLI- CATION, RECOVERY

BY SURGEON CAPTAIN J. D. T. RECKITT,
M.R.C.S., L.R.C.P. EDIN. &c.

ON Dec 5th, 1892, at 11 A.M., I saw an infant aged eight months, the son of a soldier, having been attending it for several days before for broncho pneumonia, from which it was nearly convalescent. The child presented a pale and pinched countenance and was evidently suffering great pain. I was informed for the first time by the mother that the child had suffered from hernia since birth and that on this occasion the bowel had been down since 7 P.M. the night before. She also stated that though it had often been down before for several hours at a time she had never had any difficulty in replacing it. Vomiting had been going on at frequent intervals since 7 A.M. and the bowels had acted twice during the night. The hernial tumour was the size of a small Tangerine orange, very tight and painful on palpation, and with no impulse that I could detect when the child coughed or cried. I at once tried gentle taxis, but the manipulation did not seem to have the slightest effect. I then directed the mother to apply hot fomentations and, if that failed, to place the child in a hot bath, afterwards to keep it at rest in the recumbent position with the pelvis well raised. On account of the great pain and restlessness I ordered a sedative and stimulant mixture of compound spirit of ammonia and spirit of chloroform, with half a minim of tincture of opium every three hours, and I left, expecting that the means adopted would result in the return of the bowel, as I had often observed before in infants. However, at 2 P.M., when I called, there was no change, and taxis, as before, had no effect whatever. At 7 P.M. I myself placed the child in a hot bath, gave a four ounce enema of olive oil and again tried taxis, but to no purpose, and I then reluctantly decided (on account of the tender age and semi collapsed condition of the patient) to attempt relief by operation. At 10.30 P.M., aided by the best light that could be obtained at the parents' quarters, the child was placed under chloroform by Surgeon Captain O'Halloran of the Army Medical Staff, and, taxis again failing with both of us, I transfixed the integuments and laid open the sac. Though I could easily run my little finger all round the inside of the sac, I could not define clearly the neck or the external abdominal ring, and we had noticed that on opening the sac the usual amount of fluid did not escape. Though puzzled at the time, I made a small cut into a part of the next covering of the hernia, which I pinched up with dissecting forceps, with the result of

an immediate escape of the fluid previously looked for and on laying this sac open to the full extent of the wound I came across the bowel. The stricture was very tight and it was a matter of some difficulty with such a small patient to notch it, but this when done allowed the bowel (roughened in one or two places) to be easily returned. The light was not good enough to allow me to excise the sac, and though I cut away a little of it I did not care to persevere with the dissection, more particularly as I was troubled by the jumping up of the testis into the wound whenever I made traction with the forceps. The dangerous proximity and uncertain position, too, of the spermatic cord and vessels by such a light decided me to abandon the idea of a radical cure, and instead the edges of both sacs were drawn together along with the integuments by means of silver wire, and an iodoform and blue wool dressing was applied. The child slept at intervals during the nights of Dec 5th and 6th. There was no return of vomiting, and the bowels acted several times. The infant progressed without a bad symptom, the wound healed by first intention, and on Dec. 19th, a fortnight after herniotomy, it was quite well and was fitted with a truss.

Remarks.—I think this case is well worth reporting, the interesting features about it being, first, the tender age of the patient and, secondly, the existence of two sacs. I have not looked up the literature of the subject and therefore am ignorant of the experience others have had in children so young, but I myself have never been called upon to do herniotomy in a patient of such tender age, and I am told by Mr. Edmund Owen that he has not had to operate very frequently in very young children. The existence of two sacs was certainly puzzling with an indifferent artificial light, but it was of course readily explained on reference to the anatomy of the hernia, which was of the "infantile" variety. Shorncliffe, Kent.

ON THE INDICATIONS FOR SUPRA-PUBLIC CYSTOTOMY IN CASES OF TUMOUR, STONE, PROSTATIC RETENTION AND CYSTITIS¹

By F. A. SOUTHAM, M.B. OXON, F.R.C.S. ENG.,
SURGEON TO THE MANCHESTER ROYAL INFIRMARY

THE revival of the old "high operation" of opening the bladder, or "supra public cystotomy" as it is now termed, may be said to date from the year 1835, and the credit of its revival is mainly due to Sir Henry Thompson, who in that year performed it on seven occasions for the removal of calculi and tumours from the bladder. Since then it has been adopted by most surgeons, and at the present time it ranks as a recognised operation in the treatment of various forms of vesical disease. During the past seven years I have myself performed supra public cystotomy in seventeen cases, particulars of which are given in the following table, all the patients being of the male sex. A brief consideration of these cases, which may be arranged in four groups, according to the cause for which the operation was performed—viz., tumour, stone, prostatic retention of urine and cystitis—may perhaps be of interest, inasmuch as they illustrate the chief conditions in which supra public cystotomy is indicated.

Tumour.—In five cases (Cases 1, 2, 5, 6 and 13) the patients were the subjects of tumours of the bladder, and in four of these, where the growth was of a simple nature—viz., papilloma—removal was effected, twice successfully, twice with a fatal result. The two which proved unsuccessful were amongst my earliest cases—viz., the second and fifth occasions on which I performed this operation—and the fatal results were due to causes which a further experience in the technique and after treatment of supra public cystotomy has taught me are in a great measure preventable. The remaining case of tumour (Case 6) was one in which, the growth being of a malignant nature, no attempt was made to remove it, the bladder being drained through the supra public opening, with great relief to the patient's symptoms. For all cases of removal of vesical growths occurring in males there is no doubt that the supra public operation is far superior to perineal cystotomy. Though I have removed several tumours with success by the

¹ From the Army Medical Scientific Committee, May 8th, 1892.

¹ A paper read before the Manchester Medical Society, March 1st, 1893.

gall stone, square or nearly so, and half an inch across in all directions. The wall of the duct around it was much thickened, but it did not completely obstruct it though there was very little space indeed for bile to flow by its side. The hepatic duct was much dilated, not so the cystic duct, through which the large stone must at one time have passed, though it was much reduced in length (quarter of an inch) and looked more like a foramen than a duct. The calculus had evidently not increased in size in the duct, as it was faceted on several sides. There was no trace of jaundice post mortem, and this lends to the clinical aspect of the case, the great interest of which lies in the fact that there had only been jaundice for nine days of very slight degree two years before her death, and that at that time there was no hepatic colic. Dr John Harley has very kindly communicated the fact that he had her under observation for twenty seven years—from 1864 to 1891—and that this was the only attack of jaundice she had manifested. During the last year of her life she had been under the observation of people who were intimate with her and they stated that she was never jaundiced, though during this period she had several attacks of severe abdominal pain, chiefly on the right side, with vomiting. Neither was there any history of the ague like paroxysms to which Dr Ostler has called attention as symptomatic of calculus impacted in the duct. The stone probably passed into the common duct at the time when she had the jaundice two years before her death but it is very remarkable how little obstruction was then present and how quickly and completely all the jaundice disappeared, the duct evidently rapidly dilating around the stone until almost directly after impaction had taken place room was made for the bile to flow past the side of it. And this is the more remarkable when it is remembered that the stone was one of considerable size.

It may be thought by some, on reading this report without an opportunity of examining the specimen, that possibly the secondary gall bladder was really a greatly distended cystic duct, but this was not so. It opened out of the gall bladder at the opposite side to the duct, and, moreover the fluid in the gall bladder was bile. The new cavity was evidently one formed by the adhesion of surrounding parts.

The tolerance of the peritoneum to extravasated bile is well illustrated by Thiersch's remarkable case (referred to in Mr Mayo Robson's book on Gall stones), in which he successfully removed many pints of bile from the abdominal cavity after the gall bladder had been ruptured by a blow, but that the peritoneum will not remain tolerant to bile for very long this case, amongst other, demonstrates.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL AND THERAPEUTICAL

CHLOROBROM IN MENTAL DISEASES

By JOHN KEAT M.D., F.R.C.P. EDIN.,
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THE excellent results obtained by the judicious use of the solution named "chlorobrom," introduced by Professor Charteris of Glasgow for the prevention and alleviation of sea sickness, have been recently recorded in the medical papers. I have not seen, however, any note of the solution having been used in the treatment of mental and nervous diseases; and as I have prescribed it in suitable cases in this asylum for about a year with results which seem to show that in it we have a valuable addition to our still too short list of really safe and reliable hypnotics I may perhaps be allowed to state my experience very briefly. As a general sedative in various forms of maniacal excitement in the excitement of general paralysis and of epilepsy, I have tried chlorobrom without sufficiently encouraging results to warrant perseverance. In such cases when it is found necessary to use a sedative I find sulphonal or the bromides (alone or in combination with cannabis indica) much more efficient and equally safe. As a hypnotic, however, in melancholia and allied mental conditions I have found chlorobrom reliable pleasant to take, and free from risk

and from disagreeable after effects. In the threatened melancholia brain exhaustion, or breakdown so commonly occurring in overworked and worried business men, insomnia is usually such an obstinate and painful symptom that the use of a hypnotic cannot be avoided. In some cases the drug which has been of late, perhaps, most in favour is paraldehyde, and it is safe, reliable, and seldom followed by unpleasant sensations. It has, however, a most disagreeable taste, which cannot be disguised, and it imparts to the breath an enduring and most objectionable odour. Instead of paraldehyde, therefore, I now prescribe an ounce of chlorobrom to be taken an hour before retiring to rest. I find that a sound sleep, lasting from six to eight hours, is almost invariably produced, that it is not followed by sickness, headache, or lassitude next morning, that the stomach and bowels are not deranged, and that there is no impairment of nutrition even when the drug is given regularly for weeks. A patient at present under my care has increased more than a stone in weight whilst taking a regular nightly dose. Another form of mental depression in which I have found chlorobrom valuable is the excited, or motor, variety of melancholia. In cases of this kind paraldehyde is sometimes quite useless, in fact, unless given in large doses it may even increase the excitement. Chlorobrom has no such tendency. It combines the sedative with the purely hypnotic action and acts somewhat like paraldehyde when given along with bromidia or one of the bromides. An ounce of the solution may be given an hour before bedtime. When the excitement is considerable a larger dose may be required and may be given without fear—say, an ounce and a half or two ounces. I have never known unpleasant results to follow. In the other forms of melancholia one is not so frequently driven to the use of hypnotics, but in their treatment, also, my experience of chlorobrom has been favourable, and I intend to use it in future as suitable cases present themselves.

As mentioned above, one ounce is a medium hypnotic dose of chlorobrom, representing thirty grains of chloralamid and thirty grains of bromide of potassium. The full effect is generally produced about an hour after administration. It is not objected to by patients and is swallowed without difficulty, its taste and smell being quite pleasant. In this respect it compares most favourably with paraldehyde, and ease of administration is a matter of no small moment when dealing with insane or nervous patients. Chlorobrom has no disagreeable after effects. It does not interfere with nutrition. It does not interfere with the restoration of the normal sleep habit, and its discontinuance has not been followed, so far as I have observed, by any morbid craving.

MALIGNANT DISEASE OF THE PROSTATE

By WORSLEY J. HARRIS, L.R.C.P. LOND &c

THE patient was a small, thin, wiry man aged sixty five, who first consulted me at the end of November, 1891, for (1) frequency of micturition, (2) pain of a dull, aching character in the perineum, (3) pain along the urethra and at the end of the penis, (4) some difficulty of micturition. All these symptoms came on three weeks previously, and he had never had any trouble before then. On examination per rectum the middle lobe of the prostate showed decided enlargement. The sound in the bladder detected no stone. A prostatic curved silver catheter passed much more easily than the ordinary one. The patient was given a soft catheter and taught to use it himself. Thus he did on and off for some three weeks. Then he seemed to give up all hope and took to his bed, and nothing would induce him to help himself. He was thoroughly examined, but no organic mischief was found in any of his other organs. Up to February 1892, he remained at a standstill, but in the beginning of that month all the symptoms of pain—increased difficulty and frequency of micturition, rectal pain and constipation and general emaciation—became more marked. The prostate increased rapidly in size and some hæmaturia occurred occasionally. All these symptoms increased during February, March, April and May. The inguinal glands began to enlarge, and hard nodules were felt in the pelvis per rectum. The bowels were only relieved by enemata. The bladder was very contracted and urine constantly voided, but there was never any retention beyond about an ounce, which when drawn off consisted mostly of pus. The patient gradually sank and died of asthenia, quietly passing away on May 28th (seven months

past, for if a stone cannot be crushed it will be most safely removed through a supra pubic opening, the one essential for success being a condition of the bladder which will allow of its moderate distension with fluid. In children under ten years of age I have twice crushed uric acid calculi one inch and a quarter in diameter, but if the stone exceeds this size supra pubic lithotomy is indicated, and, as a rule, the larger and harder the stone and the younger the patient, the greater is the reason for selecting this operation. In adults a uric acid or oxalate of lime calculus one inch and a half in diameter or upwards is best removed by the supra pubic operation, especially if there is any enlargement of the prostate gland. In cases where there is any suspicion or evidence of chronic renal disease and the patient is advanced in years and probably the subject of hypertrophy of the prostate, I believe that a rapidly performed supra pubic lithotomy is attended by much less risk than a protracted crushing operation. The only case of lithotomy I have so far lost was performed under these conditions. A gouty gentleman seventy-two years of age (a patient of Dr Sellers of Radcliffe) had an enlarged prostate and probably granular kidneys, the stone was of roundish shape and about an inch in diameter, consisting of uric acid, the operation, which lasted an hour, was rendered extremely difficult by the fact that the stone lay in a deep post-prostatic pouch. He suffered severely afterwards from shock, developed uræmic symptoms and, becoming comatose, died on the following day. I have regretted since that in this instance I did not perform supra pubic lithotomy instead of lithotomy.

Retention of urine.—In five cases the operation was undertaken for the relief of prostatic retention of urine, which in two instances (Cases 7 and 14) had come on somewhat suddenly. In Case 7, seen in consultation with Mr De Jong and Mr Ferriday, there was a huge malignant growth connected with the prostate gland, which rendered catheterism quite impossible. In Case 14, where there was an enlarged prostate and also a stricture, the bladder was distended with blood clot, the result of unsuccessful attempts at catheterism previously to admission into hospital, and the clots were so firm that it would have been impossible to have removed them through a catheter, even if one could have been introduced into the bladder. In the other cases (Cases 8, 9 and 17) the retention, which was due to simple enlargement of the prostate, had been present for some time and was capable of being relieved by catheterism. In Cases 8 and 9 the operation was undertaken with the idea of removing the cause of obstruction to the escape of the urine, and the excision in one instance of a portion of the prostate and its vertical section in the other was followed by a return of the power of voluntary micturition. In Case 17, seen in consultation with Dr Saul, the retention was accompanied by very profuse bleeding from the prostate, and it was mainly with the idea of arresting the hæmorrhage that the bladder was opened, as it appeared certain that unless some active treatment was undertaken the patient would soon sink from loss of blood. It was interesting to note that the bleeding, which previously could not be stopped by the ordinary means, completely ceased after the operation, no doubt because the free drainage, by preventing straining and thus by keeping the bladder in a state of rest, at once relieved the congestion of the prostate to which the hæmorrhage was due. As regards the class of cases of retention in which supra pubic cystotomy should be performed, I am of opinion that it is indicated in habitual retention due to enlargement of the prostate. First, when palliative treatment—viz., regularly drawing off the urine and washing out the bladder—has failed to give relief, and when self catheterism is impracticable or attended by pain (Cases 8 and 9), and secondly, when the retention is accompanied by active hæmorrhage into the interior of the bladder, which cannot be checked by ordinary means (Case 17). Under these circumstances the operation enables one of the following courses to be adopted—(1) Free drainage for a time, which is often followed by a return of the power of voluntary micturition, (2) permanent drainage by the establishment of a supra pubic fistula, and (3) removal or division of the obstructing portion of the prostate gland.

Cystitis.—Another class of cases in which supra pubic cystotomy is sometimes required is in severe or obstinate cases of chronic cystitis, and especially in the tubercular form when accompanied by ulceration. Here the operation is not only useful as a means of effectually draining and irrigating the bladder, but it also affords access to the ulcers, which may

be scraped or cauterised. I have only once had occasion to perform the operation in a case of this kind (Case 4). The patient, who was the subject of advanced general tuberculosis, in addition to the usual symptoms of cystitis, suffered from hæmaturia and also from great pain and difficulty in micturition, owing to the obstruction caused by the presence of extensive tuberculous deposits in both seminal vesicles. The operation was followed by immediate relief, but the patient, who was in an extremely exhausted state at the time of its performance, sank on the following day.

In conclusion, I would draw attention to the fact that, whereas of the first seven cases five were fatal, the last ten have all been successful. In two of the fatal cases (Cases 4 and 7) death can hardly be attributed to the operation, as both patients were in a hopeless condition. In the other three cases (Cases 2, 3 and 5) the fatal results were due to septicæmia, pelvic cellulitis and peritonitis—complications which are, I believe, now almost certainly preventable if during the operation the cellular tissue in front of the bladder is not much disturbed and if during the after treatment the wound is kept in an aseptic condition by frequently dousing it with boric acid and by washing out the bladder with boric lotion. As already stated, I am of opinion that the opening in the bladder should never be sutured, it adds a danger to the operation, for if the bladder begins to leak after the superficial wound has entirely or partly closed (as in Case 3) extravasation of urine and pelvic cellulitis are very likely to occur. If, on the other hand, the suturing is successful, the operation is deprived of one of its chief advantages—viz., the free after drainage, which is always beneficial.

Manchester

A CASE OF PRIMARY PERFORATION OF THE GALL-BLADDER,

WITH THE FORMATION OF AN ADDITIONAL CAVITY UNDER THE SURROUNDING ADHESIONS, SECONDARY RUPTURE OF THIS CAVITY INTO THE PERITONEUM, IMPACTION OF STONE IN COMMON DUCT WITHOUT JAUNDICE

BY CHARLES A. MORTON F.R.C.S. ENG.,
REGISTRAR TO THE BRISTOL GENERAL HOSPITAL, PATHOLOGIST TO THE BRISTOL CHILDREN'S HOSPITAL.

I SHALL first describe what I discovered at the post-mortem examination and afterwards refer to the symptoms which, in the light of the necropsy, are of considerable interest. I am much indebted to Mr L. M. Griffiths of Clifton for inviting me to make the necropsy and for allowing me to show the specimen at our local medical society and to publish this report of it. The patient, a woman aged sixty, was under the care of Mr L. M. Griffiths and I did not see her during life. She died on Nov. 22nd, 1892, and on the 23rd I made the post-mortem examination. The body was well nourished. The abdomen was distended and on opening it much orange-coloured fluid escaped and general recent adhesive peritonitis was discovered. Just below the liver was a cavity the size of an orange, bounded above by the under surface of the liver, and in front by the thin margin of the liver and the omentum, which had been adherent to it. Below, it was separated from the colon by much thickened tissue. On its inner side lay the omentum, and on its outer side, covered by adhesions between the liver and adjacent parts lay the gall bladder, which opened into the cavity, by an aperture which would admit one or two fingers. The wall of the gall bladder was much thickened and several stones half an inch in diameter were found lying in it. Where the omentum had before been adherent to the anterior edge of the liver, forming the anterior wall of the cavity, it had become detached, and thus the bile had escaped into the peritoneum and set up fatal peritonitis. No doubt at one time the gall bladder, containing gall stones, had perforated under these surrounding adhesions, and thus the secondary gall bladder had been formed, which in its turn, had finally ruptured into the peritoneum. The old gall bladder was not dilated to any extent.

The formation of this secondary gall bladder is not the only point of interest in the pathology of the case. In the common duct, just after the cystic and hepatic ducts join (and where Mr Mayo Robson states there is normally a slight dilatation, so that stones are apt to lodge), was another

gall stone, square or nearly so, and half an inch across in all directions. The wall of the duct around it was much thickened, but it did not completely obstruct it, though there was very little space indeed for bile to flow by its side. The hepatic duct was much dilated, not so the cystic duct, through which the large stone must at one time have passed, though it was much reduced in length (quarter of an inch) and looked more like a foramen than a duct. The calculus had evidently not increased in size in the duct as it was faceted on several sides. There was no trace of jaundice post mortem, and this lends to the clinical aspect of the case, the great interest of which lies in the fact that there had only been jaundice for nine days of very slight degree two years before her death, and that at that time there was no hepatic colic. Dr John Harlev has very kindly communicated the fact that he had her under observation for twenty-seven years—from 1864 to 1891—and that this was the only attack of jaundice she had manifested. During the last year of her life she had been under the observation of people who were intimate with her and they stated that she was never jaundiced, though during this period she had several attacks of severe abdominal pain, chiefly on the right side, with vomiting. Neither was there any history of the ague-like paroxysms to which Dr O'tter has called attention as symptomatic of calculus impacted in the duct. The stone probably passed into the common duct at the time when she had the jaundice two years before her death, but it is very remarkable how little obstruction was then present and how quickly and completely all the jaundice disappeared, the duct evidently rapidly dilating around the stone until almost directly after impaction had taken place room was made for the bile to flow past the side of it. And this is the more remarkable when it is remembered that the stone was one of considerable size.

It may be thought by some, on reading this report without an opportunity of examining the specimen, that possibly the secondary gall bladder was really a greatly distended cystic duct, but this was no so. It opened out of the gall bladder at the opposite side to the duct, and, moreover, the fluid in the gall bladder was bile. The new cavity was evidently one formed by the adhesion of surrounding parts.

The tolerance of the peritoneum to extravasated bile is well illustrated by Thierch's remarkable case (referred to in Mr Mayo Robson's book on Gall stones) in which he successfully removed many pints of bile from the abdominal cavity after the gall bladder had been ruptured by a blow, but that the peritoneum will not remain tolerant to bile for very long in this case, amongst other, demonstrates.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL AND THERAPEUTICAL.

CHLOROBROM IN MENTAL DISEASES

By JOHN KEAY M.D., F.R.C.P. EDIN.

MEDICAL SUPERINTENDENT, MATHIASANE ASYLUM, EDINBURGH.

THE excellent results obtained by the judicious use of the solution named "chlorobrom," introduced by Professor Charters of Glasgow for the prevention and alleviation of sea sickness, have been recently recorded in the medical papers. I have not seen, however, any note of the solution having been used in the treatment of mental and nervous diseases and as I have prescribed it in suitable cases in this asylum for about a year with results which seem to show that in it we have a valuable addition to our still too short list of really safe and reliable hypnotics I may perhaps be allowed to state my experience very briefly. As a general sedative in various forms of maniacal excitement, in the excitement of general paralysis and of epilepsy I have tried chlorobrom without sufficiently encouraging results to warrant perseverance. In such cases, when it is found necessary to use a sedative, I find sulphonal or the bromides (alone or in combination with cannabina indica) much more efficient and equally safe. As a hypnotic, however, in melancholia and allied mental conditions I have found chlorobrom reliable, pleasant to take, and free from risk

and from disagreeable after effects. In the threatened melancholia brain exhaustion, or breakdown so commonly occurring in overworked and worried business men, insomnia is usually such an obstinate and painful symptom that the use of a hypnotic cannot be avoided. In some cases the drug which has been of late, perhaps most in favour is paraldehyde and it is safe, reliable, and seldom followed by unpleasant sensations. It has, however, a most disagreeable taste which cannot be disguised, and it imparts to the breath an enduring and most objectionable odour. Instead of paraldehyde, therefore I now prescribe an ounce of chlorobrom to be taken an hour before retiring to rest. I find that a sound sleep, lasting from six to eight hours, is almost invariably produced, that it is not followed by sickness headache or lassitude next morning, that the stomach and bowels are not deranged, and that there is no impairment of nutrition even when the drug is given regularly for weeks. A patient at present under my care has increased more than a stone in weight whilst taking a regular nightly dose. Another form of mental depression in which I have found chlorobrom valuable is the excited or motor variety of melancholia. In cases of this kind paraldehyde is sometimes quite useless, in fact, unless given in large doses it may even increase the excitement. Chlorobrom has no such tendency. It combines the sedative with the purely hypnotic action and acts somewhat like paraldehyde when given along with bromidia or one of the bromides. An ounce of the solution may be given an hour before bedtime. When the excitement is considerable a larger dose may be required and may be given without fear—say an ounce and a half or two ounces. I have never known unpleasant results to follow. In the other forms of hypnotics but in their treatment also my experience of chlorobrom has been favourable, and I intend to use it in future as suitable cases present themselves.

As mentioned above, one ounce is a medium hypnotic dose of chlorobrom, representing thirty grains of chloralamid and thirty grains of bromide of potassium. The full effect is generally produced about an hour after administration. It is not objected to by patients and is swallowed without difficulty, its taste and smell being quite pleasant. In this respect it compares most favourably with paraldehyde, and ease of administration is a matter of no small moment when dealing with insane or nervous patients. Chlorobrom has no disagreeable after effects. It does not interfere with nutrition. It does not interfere with the restoration of the normal sleep habit, and its discontinuance has not been followed, so far as I have observed, by any morbid craving.

MALIGNANT DISEASE OF THE PROSTATE.

By WORSLEY J. HARRIS, L.R.C.P. LOND. &c.

THE patient was a small, thin, wiry man aged sixty five, who first consulted me at the end of November, 1891, for (1) frequency of micturition, (2) pain of a dull, aching character in the perineum, (3) pain along the urethra and at the end of the penis, (4) some difficulty of micturition. All these symptoms came on three weeks previously and he had never had any trouble before then. On examination per rectum the middle lobe of the prostate showed decided enlargement. The sound in the bladder detected no stone. A prostatic curved silver catheter passed much more easily than the ordinary one. The patient was given a soft catheter and taught to use it himself. This he did on and off for some three weeks. Then he seemed to give up all hope and took to his bed, and nothing would induce him to help himself. He was thoroughly examined but no organic mischief was found in any of his other organs. Up to February 1892, he remained at a standstill, but in the beginning of that month all the symptoms of pain—increased difficulty and frequency of micturition, rectal pain and constipation and general emaciation—became more marked. The prostate increased rapidly in size and some hæmaturia occurred occasionally. All these symptoms increased during February, March, April and May. The inguinal glands began to enlarge, and hard nodules were felt in the pelvis per rectum. The bowels were only relieved by enemata. The bladder was very contracted and urine constantly voided but there was never any retention beyond about an ounce, which when drawn off consisted mostly of pus. The patient gradually sank and died of asthenia, quietly passing away on May 28th (seven months

past, for if a stone cannot be crushed it will be most safely removed through a supra pubic opening, the one essential for success being a condition of the bladder which will allow of its moderate distension with fluid. In children under ten years of age I have twice crushed uric acid calculi one inch and a quarter in diameter, but if the stone exceeds this size supra pubic lithotomy is indicated, and, as a rule, the larger and harder the stone and the younger the patient, the greater is the reason for selecting this operation. In adults a uric acid or oxalate of lime calculus one inch and a half in diameter or upwards is best removed by the supra pubic operation, especially if there is any enlargement of the prostate gland. In cases where there is any suspicion or evidence of chronic renal disease and the patient is advanced in years and probably the subject of hypertrophy of the prostate, I believe that a rapidly performed supra pubic lithotomy is attended by much less risk than a protracted crushing operation. The only case of lithotomy I have so far lost was performed under these conditions. A gouty gentleman seventy-two years of age (a patient of Dr Sellers of Radcliffe) had an enlarged prostate and probably granular kidneys, the stone was of roundish shape and about an inch in diameter, consisting of uric acid, the operation, which lasted an hour, was rendered extremely difficult by the fact that the stone lay in a deep post-prostatic pouch. He suffered severely afterwards from shock, developed uræmic symptoms and, becoming comatose, died on the following day. I have regretted since that in this instance I did not perform supra pubic lithotomy instead of lithotomy.

Retention of urine.—In five cases the operation was undertaken for the relief of prostatic retention of urine, which in two instances (Cases 7 and 14) had come on somewhat suddenly. In Case 7, seen in consultation with Mr De Jong and Mr Ferriday, there was a huge malignant growth connected with the prostate gland, which rendered catheterism quite impossible. In Case 14, where there was an enlarged prostate and also a stricture, the bladder was distended with blood clot, the result of unsuccessful attempts at catheterism previously to admission into hospital, and the clots were so firm that it would have been impossible to have removed them through a catheter, even if one could have been introduced into the bladder. In the other cases (Cases 8, 9 and 17) the retention, which was due to simple enlargement of the prostate, had been present for some time and was capable of being relieved by catheterism. In Cases 8 and 9 the operation was undertaken with the idea of removing the cause of obstruction to the escape of the urine, and the excision in one instance of a portion of the prostate and its vertical section in the other was followed by a return of the power of voluntary micturition. In Case 17, seen in consultation with Dr Saul, the retention was accompanied by very profuse bleeding from the prostate, and it was mainly with the idea of arresting the hæmorrhage that the bladder was opened, as it appeared certain that unless some active treatment was undertaken the patient would soon sink from loss of blood. It was interesting to note that the bleeding, which previously could not be stopped by the ordinary means, completely ceased after the operation, no doubt because the free drainage, by preventing straining and thus by keeping the bladder in a state of rest, at once relieved the congestion of the prostate to which the hæmorrhage was due. As regards the class of cases of retention in which supra pubic cystotomy should be performed, I am of opinion that it is indicated in habitual retention due to enlargement of the prostate. First, when palliative treatment—viz., regularly drawing off the urine and washing out the bladder—has failed to give relief, and when self catheterism is impracticable or attended by pain (Cases 8 and 9), and secondly, when the retention is accompanied by active hæmorrhage into the interior of the bladder, which cannot be checked by ordinary means (Case 17). Under these circumstances the operation enables one of the following courses to be adopted—(1) Free drainage for a time, which is often followed by a return of the power of voluntary micturition, (2) permanent drainage by the establishment of a supra pubic fistula, and (3) removal or division of the obstructing portion of the prostate gland.

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The formation of this secondary gall bladder is not the only point of interest in the pathology of the case. In the common duct just after the cystic and hepatic ducts join (and where Mr Mayo Robson states there is normally a slight dilatation, so that stones are apt to lodge), was another

from the loop that presented in the wound and passing the intestine through the fingers just within the wound in lengths of about three inches, returning one portion before the next was brought into view. Before three feet of intestine had been thus examined Mr Marsh found that the part he was approaching was fixed so that it could not be drawn forwards. On following this portion a band of the size of a No 4 catheter, apparently connected with the mesentery and tightly constricting the gut, was reached. Before it could be exposed, however, it gave way. The intestine was now quite free, and when drawn forwards it presented upon its wall, just where the distended and the constricted segments met, a round cord like band of the size mentioned above, about two inches long and apparently consisting of soft fibrous tissue, as if an inflammatory adhesion had become organised. The band was ligatured close to the intestine and removed. No further obstruction could be found, and as the bowel, though deeply marked by the constriction, was not ulcerated, it was returned and the abdominal cavity was irrigated with iodine water (1 in 500 of the tincture in water, at a temperature of 95°) and the wound closed. The symptoms of obstruction at once disappeared, sickness ceased, flatus was freely passed and the bowels acted naturally on the following day (Oct. 31st). On Nov 1st a large evacuation was passed. The wound healed by primary union. Nutritive enemata were given and the boy was allowed for the first forty eight hours to swallow nothing but water in teaspoonful doses every two hours. He complained of severe thirst, and on Nov 2nd seventy two hours after the operation and during the momentary absence of the nurse from the room, he got out of bed, climbed over the next bed and drank a tumblerful of water belonging to another boy, and was rapidly making his way back when the nurse returned. This exploit was fortunately not followed by any bad result, and a fortnight later he went to his home in the country.

Remarks by Mr HOWARD MARSH—In this case there are two points of some interest. 1. The gradual manner in which the symptoms were developed, and the time, five days, which elapsed before they were pronounced enough to call for operative interference were features but very seldom met with in obstruction of the small intestine by a band. Usually the symptoms are acute and of rapidly increasing severity, but up to the middle of the fifth day this patient looked as if he ailed very little, and the occurrence of fecal vomiting was somewhat of a surprise to those who were watching the case. The explanation no doubt was that as the band was a long one complete obstruction was only slowly produced. 2. The relief afforded by the division of the band was immediate and entire, the bowels acted spontaneously in a few hours, and the boy as the result showed, was practically well as soon as the operation was completed. The laparotomy was of the simplest kind, and was as well borne as an operation for hernia.

HOPE HOSPITAL, WARRINGTON

A CASE OF ERUPTION RESEMBLING THAT OF VARIOLA, REMARKS

(Under the care of Mr GORNALL.)

A CASE has recently come under the care of Mr Gornall which, while presenting features of difficulty in diagnosis, has, at the same time, afforded an excellent opportunity of putting to the test the opinion which was formed as to its real character.

A fine healthy girl, four years old, was notified as suffering from small pox and admitted into the Hope Hospital at Warrington on Jan. 7th. The facts as to the previous history of the illness which were known at the time, were not sufficient to warrant action upon the doubts which were entertained, while the condition found on examining her afforded an additional reason for detaining her. It may be said that there is no isolation ward for dubious cases. No cicatrices of vaccination could be found and it was gathered that her parents were opposed to the practice and lived in one of the great centres of the anti vaccination movement, from which place the child had recently come to stay with some relatives in Warrington. The spots had been out several days and had been preceded by considerable constitutional disturbance, in connexion with which pain in the back and chest was described. On admission to hospital the child appeared not to be in any way ill,

her temperature was normal, her appetite, though slightly impaired through soreness of the throat, became in a day or two excellent, she had on the forehead the dried scabs of three pocks and a few on the scalp in a similar state, while on the body there was a considerable eruption. This consisted of about fourteen spots on the front of the body and thirty on the back, the limbs were entirely free from them. The pocks, which were in the suppurative stage, presented a red inflammatory areola surmounted by, in the great majority of cases, a flat vesicle having a most typical umbilication, and could in no way be distinguished from small pox, in a few there was a more acuminate form. Examination of the throat revealed nothing more than slight erythema. The case was undoubtedly a suspicious one, though its mildness was quite opposed to Mr Gornall's experience of small pox in unvaccinated children, and after further consideration it was determined to vaccinate the patient. This was done with calf lymph by four insertions on the left arm thirty six hours after admission, and two days afterwards again by one insertion on the right arm. The result was the development of typical vaccinia (the less marked, of course in the case of the latter insertion) which has run a protracted and somewhat severe course, though the child has remained all along, except for the temporary constitutional disturbance caused by this, in excellent health. She was three weeks after admission free from any untoward symptom. The original eruption rapidly dried up and no fresh spots developed.

Remarks by Mr GORNALL—I have no doubt it was a case of chicken pox, and what I have since been able to glean from the medical attendant and relatives adds some confirmation to this opinion, though showing a case with somewhat unusual features. The child came to Warrington on Dec 28th. She remained well till the evening of Jan. 2nd, when she became sick and vomited, complaining of pain in the back. On the morning of Jan. 3rd she seemed brighter, but two spots were noticed on her neck, which soon developed a "humourous head." During that day she was quite well enough to go out and had a good appetite. On Jan 4th she was all right till towards midday, when she became languid and again complained of pain in the back, and was now found to be covered with spots which had certainly not been there the previous night, they, like the others soon became vesiculate. On Jan 5th no fresh spots had developed, but the child was restless, complaining of pain in the head and throat, which in the case of the latter interfered with swallowing. On Jan 6th the throat continued very sore and the child was restless at night. The case was definitely pronounced by the medical attendant to be small pox and she was removed the following day to the Hope Hospital. I have subsequently through the kindness of the medical officer of health of the locality from which the child came, been able to ascertain that her sister has recently been suffering from chicken pox, and that there have been other cases of the same disease in the neighbourhood of her home, but no small pox in the locality. This throws an interesting light on a complaint which, whether it was variola or varicella, must have been contracted before coming to Warrington.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY

Fibrous Polypus of Prostatic Urethra—Etiology of R6theln.

AN ordinary meeting of this Society was held on March 14th, the President, Sir Andrew Clark, in the chair.

Mr BRYANT read a paper on a case of Fibrous Polypus of the Prostatic Portion of the Urethra associated with Profuse Hematuria and Prostatic Enlargement, in which removal of the growth was followed by recovery. The case was that of a gentleman aged sixty three who had suffered from hematuria for six years, which was at times very profuse. When seen he was collapsed from loss of blood and suffering from retention of urine, with an enormously enlarged prostate. Temporary relief was afforded by catheterism, an exploratory median perineal operation was performed a few days later. At the operation no disease was discovered in the bladder nor any enlargement of the vesical lobe of the prostate gland. The gland otherwise was much enlarged and felt

after the first uræmic signs), never having had any delirium or comatose symptoms

Necropsy.—This was imperfect, as only the tumour was allowed to be removed. This and the bladder, with some lumbar glands, were removed, and with much difficulty, as the growth was extremely adherent to the adjacent structures. The growth was found on examination after removal to surround all the lower half of the bladder, the ureters, vesiculae seminales, vasa deferentia, spermatic cord, and the membranous portion of the urethra, and to be pressing on the rectum. The inguinal and lumbar glands were all enlarged and hardened. The growth appeared as an enormous enlargement of the whole of the prostate.

Microscopical examination.—Sections of the tumour, stained with logwood and mounted in Canada balsam, showed as chief characteristics a great growth of fibrous tissue appearing in wavy bundles and running in various directions, whilst at some places there were collections of cells the outlines of which were indefinite, but which were mostly small round cells, and these were commencing to infiltrate the growth.

Remarks.—I have thought it worth while to publish this case, as "malignant disease of the prostate" is a rare affection, especially "primary" malignancy of that organ. I regret that the other organs could not be examined, but the primary character of the case is shown by no symptoms being referable to, and nothing abnormal being detected during life in, any other organ except the prostate. Clinically, the extreme malignancy of the growth is proved by the rapid emaciation of the patient, the quick enlargement of the growth, and the occurrence of metastatic enlargement of the inguinal and lumbar glands, and pathologically it is shown by the great irregularity of the tumour and by its involving and being very adherent to all the adjacent structures, and not merely appearing as a simple hypertrophy of the gland. Microscopically, the fibrous tissue seen is what would occur in a case of simple enlarged prostate, but the infiltrating cells, though in definite outline, seemed mostly to tend to a small round type. Whether the growth was scirrhous, encephaloid carcinoma, or sarcoma remains doubtful.

Havelock road, Hastings.

NEPHRITIS OF OBSCURE ORIGIN IN SEVERAL CHILDREN OF ONE FAMILY

By A. H. BENSON, L.R.C.P. LOND. &c.

A CHILD aged twelve months was first seen on April 6th, 1889. There was general anasarca. His parents had not noticed that he was ailing till the same morning. The urine, which was of high specific gravity, was almost solid with albumen. The dropsy somewhat decreased under treatment, but convulsions set in which terminated fatally on May 1st. On April 26th, 1890 another child, aged four years, was noticed to be unwell and the urine was tested, again albumen in considerable quantity was detected. No further symptoms developed till the middle of 1891, when dropsy of the scrotum and legs set in. This disappeared under treatment and he remained well to all outward appearance, though there was still a large amount of albumen. In the spring of 1892 the quantity of albumen increased. Sick ness and convulsions came on, which proved fatal on May 1st. At the necropsy all the organs were found to be healthy except the kidneys, which were pale and somewhat enlarged. Whilst he was ill, yet another child (born a day or two after the death of the first patient) was found to have a trace of albumen in his urine, which rapidly increased. He also became dropsical and died in convulsions about a year after the albumen was first noticed. And now, to finish the series of cases, the baby, aged thirteen months, is in the same condition. The urine is scanty, of high specific gravity and simply loaded with albumen. There is no trace of blood or casts. At present there is no dropsy. The parents are first cousins. The mother had post-scarlatinal nephritis when a girl, but recovered completely. There is no other case of kidney trouble on either side. The two eldest children are healthy. There is no history of scarlet fever or diphtheria, nor has there been any in the village, to my knowledge, within the last five years. The house, well built and drained, lies rather low down in a somewhat marshy district, where I believe ague was prevalent

some twenty years ago. The treatment has included rest in bed, milk diet, vapour baths, free purgation with the various diaphoretics and diuretics, perchloride of iron in full doses, fuchsin, apocynum, diuretin and chloral hydrate. I have had the assistance of Drs. Frederick Roberts Rossiter, Singleton Smith, and Messrs. Chadwick and Collins. I should be extremely grateful for any help as to treatment for the remaining case, also for any explanations of four children in the same family being affected in the same manner without any apparent reason.

Wrighton, Somerset.

A Millar
OF

HOSPITAL PRACTICE, BRITISH AND FOREIGN

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium

ST BARTHOLOMEW'S HOSPITAL

INTESTINAL OBSTRUCTION PRODUCED BY A BAND,
ABSENCE OF MARKED SYMPTOMS FOR FIVE DAYS,
LAPAROTOMY, RECOVERY

(Under the care of Mr. HOWARD MABSH.)

THIS case is interesting as an example of intestinal obstruction due to a band, in which the symptoms were somewhat modified in character. There was apparently no history of previous abdominal attack, although the constricting band was regarded as probably of inflammatory origin, a history met with in more than half the cases. In other cases the band may be formed by the attachment of the free border of the mesentery, by Meckel's diverticulum or by the abnormal attachment of a normal structure (such as the vermiform appendix), whilst a similar result is effected by the passage of a loop of bowel through a hole in the mesentery or omentum. The usual course of these cases is very acute, with collapse, thirst and diminished urine. In 60 per cent the vomiting becomes stercoraceous by the forty-fifth day, and the patient quickly sinks unless relieved by operation.

A Blue-coat boy aged fourteen was admitted into the infirmary of Christ's Hospital, under the care of Dr. Alder Smith, on Oct. 24th last, with the history that on the previous day he had been attacked with sickness after eating unripe pears. An aperient was given, but the bowels did not act and he was sick several times during the day. Abdominal pain was slight and there was no distension, nothing abnormal could be felt, the temperature was normal. On the 25th sickness occurred twice or three times during the day and the bowels did not act, an oil injection was given but it was not retained, the boy felt very little pain. On the following day he was still sick. Small doses of opium and an injection, which, however, brought away no fecal material were ordered, he took only a little milk and a small quantity of beef essence. On the 27th nothing could be made out by examination of the abdomen, the temperature was normal there was no pain, very little distension and no sickness. By the 29th there was no further sickness, distension or pain, but the bowels had not been opened. Later in the day fecal vomiting suddenly commenced, but the boy's condition remained good, and he complained of only slight pain. At 8 P.M. Mr. Marsh saw him for Sir W. Savory, with Dr. Andrew and Dr. Alder Smith. The abdomen was only slightly distended, but coils of intestine could be seen through the abdominal wall. As the bowels had not acted since the commencement of the illness six days before, as fecal vomiting was present and coils could be seen, it was decided to perform laparotomy. When the abdominal cavity was opened by an incision below the umbilicus distended coils of small intestine presented. Two fingers passed through the wound detected nothing abnormal in the right iliac fossa or elsewhere. Two or three ounces of blood stained serum escaped. Search was now made for the obstruction, starting

CLINICAL SOCIETY OF LONDON

Prognosis of Sacro-iliac Disease—Removal of Malignant Growth of Colon through Inguinal Colotomy Incision—Lympho-sarcoma of Tonsil removed by External Incision

AN ordinary meeting of this Society was held on March 10th, Sir Dyce Duckworth, President, in the chair

Mr MAKINS read notes on the Prognosis of Sacro-iliac Disease, with three illustrative cases. One in an adult was treated by trephining and two in children were treated by arthrotomy with erosion. All three cases were or had been attended with suppuration. Some statistics were given regarding the rarity of the disease, the percentage of occurrence in childhood and the influence of sex. It was urged that the prognosis in tuberculous disease was better than the textbooks generally laid down, being materially influenced however, by the age of the patient and the position of the abscess and also that the disease should be treated on the same lines as tuberculous affections of the other joints.—The PRESIDENT remarked that Mr Syme used to employ the actual cautery in cases of this kind, and he remembered that the results were excellent.—Mr HULKE submitted that the record of two cases in children scarcely warranted any general conclusions being drawn as to the prognosis of this affection. The case which recovered seemed to be one of necrosis in which sequestra were removed, whilst in the other patient a sinus still remained. It was important to draw a distinction between those in which the disease was primary of the sacro-iliac articulation and those secondary cases in which the disease had extended from other centres. Statistics he only regarded as of value when they were from the practice of one person who furnished details of the evidence on which the diagnosis was based.—Mr GOULD said that the general opinion had been that the prognosis in these cases was exceedingly grave, this opinion might perhaps, be reconsidered in the light of the cases Mr Makins had related. Personally he had dealt with three cases. The first was that of a young woman aged twenty four with disease of the right sacro-iliac joint. There was a small abscess which he twice tapped and washed out with mercury solution, injecting iodoform emulsion afterwards. These measures failing he thoroughly scraped out the cavity and perfect recovery ensued. The second case was that of a man aged sixty who had two large abscesses in the buttock, the upper communicating with the sacro-iliac joint. A sinus in this case persisted after scraping but the patient had a tuberculous family history. The third case was that of a young woman under thirty years of age with an abscess connected with the left sacro-iliac joint. He opened it and removed all the bare bone he could, but a fatal result ensued, and it was then found that a large part of the sacrum and ilium was involved in the carious process, the tuberculous disease being locally infective, was apt to spread very widely in cancellous bones.—Mr MAKINS, in reply, said that his object was to show that the prognosis in children was a little less unfavourable than had been stated. Where there was extensive disease of bone the cases fell into the same category as those of similar lesions of the hip-joint.

Mr HERBERT ALLINGHAM related a case of Intestinal Obstruction of six weeks duration, in which inguinal colotomy was performed and a malignant growth was removed from the inguinal incision. There had been obstruction of the bowel for about three months, for the last five weeks it had been complete. The abdomen was greatly distended and no growth could be felt in the rectum. An incision was made as for left inguinal colotomy. On introducing the hand into the abdomen the obstruction was found to be due to a malignant stricture of the sigmoid flexure. The growth, with about fifteen inches of the gut, was pulled through the inguinal incision and fixed outside the abdomen. The gut was then incised on what was presumed to be the proximal side of the growth, but no faeces escaped. Attention was then turned to what appeared to be gut on the distal side of the growth. On incising this a quantity of faeces and flatus escaped. It was then evident that the gut was twisted. A Paul's tube was inserted and so faeces prevented from running over the wound. Ten days later a spiked clamp was applied to the protruding gut and the cancerous mass removed weighing fourteen ounces and a half. The clamp was left on for thirty six hours and then removed when there was not the slightest bleeding. In about fourteen days all was healed. There was no prolapse and the bowels acted from the lower of

the two orifices in the groin, showing that the gut was twisted when forced into the inguinal wound.—Mr BARKER inquired if the proximal coil of gut was much distended.—Dr GLOVER asked if the obstruction was absolute and complete.—Mr GOULD said that rotation of the sigmoid had been before discussed and that the proximal coil had been closed by mistake and dropped back into the abdomen. He wondered if it would not have been better to have relieved the obstruction and then later removed the growth, restored the continuity of the gut and dropped it back into the peritoneum. He asked if the glands in the meso-colon were involved.—Mr HULKE asked if the condition of the coats of the intestine was such as to allow of suture.—Mr BUCKSTON BROWNE referred to the case published in THE LANCET of March 11th by Mr Treves and commented on its analogy with the case under discussion.—Mr MAKINS said that he knew of another case in which, after removal of the growth, the intestine had been sutured and dropped back into the peritoneum.—Mr ALLINGHAM, in reply said that, when the intestine, with the growth, was pulled through the small opening in the abdominal wall, this emptied the gut and made both the proximal and distal portions appear of about equal size. The obstruction was practically complete, only a little flatus and fluid being passed. It was undesirable to drop back the distal portion of the gut, not only because it might be mistaken for the proximal end, but because accumulated faeces in it might set up ulceration, and it was often desirable to wash through from this opening to the rectum. The wall of the intestine was very thin, so that suturing would have been difficult, and the patient's condition was too unfavourable to allow either of examination for enlarged glands or for suture and return of the intestine after the removal of the growth.

Mr RAYMOND JOHNSON read the notes of a case of Lympho-sarcoma of the Tonsil removed by external incision with preliminary ligature of the external carotid artery. The patient was a woman aged fifty three, whose symptoms were of about six months duration. The growth, which occupied the position of the left tonsil, was oval in shape and measured one inch and a half by seven eighths of an inch in its two diameters, its surface was covered with short papillary processes. A mass of soft glands was situated below and behind the angle of the jaw and other smaller glands lay along the posterior border of the sterno-mastoid. Notwithstanding the somewhat extensive nature of the glandular infection it was decided to operate. This was done on June 20th, 1892. The incision extended from the lobule of the ear to the level of the hyoid bone and from it an incision was carried to the extent of one inch along the anterior border of the sterno-mastoid. The mass of glands was easily dissected out and then a silk ligature was applied to the external carotid artery below the origin of the lingual. The lateral wall of the pharynx was next freely exposed and the primary growth was excised, together with a margin of healthy tissue around it, by means of scissors. The hemorrhage was very trivial. The skin incision was sutured with silk and drained at the lower angle, no attempt being made to close the opening in the wall of the pharynx. Rectal feeding was adopted for two days after the operation. The patient progressed without a bad symptom except some suppuration in the lower part of the wound. On July 14th the enlarged glands behind the sterno-mastoid were excised through an incision along the posterior border of the muscle. The patient was discharged on July 23rd. In December a small gland was excised from beneath the scar behind the jaw and other very small ones were felt in both sides of the neck. The patient's general health had much improved and there was no recurrence in the pharynx. Reference was made to the other modes of removing tumours of the tonsil. The incision made was very similar to the one made by Cheever and Golding Bird. It was urged that the application of a ligature to the external carotid artery, which added very little to the difficulty or length of the operation was a more satisfactory mode of dealing with hemorrhage than such methods as the performance of a preliminary tracheotomy or the removal of the growth with the cautery. The patient who was exhibited eight months after the operation was in good general health and free from recurrence in the month, but there were some slightly enlarged glands in both sides of the neck.—Mr H. ALLINGHAM spoke of the ease with which the growth was reached and removed through the external incision.—Mr BARKER said that he had operated on three cases and confessed himself still in favour of removal through the mouth. The prognosis in these cases was

spongy On a careful exploration of the prostatic portion of the urethra with the finger a polypus the size of a haricot bean was found attached to the floor of the urethra with its body projecting forward, and in the upper surface of the urethra was a depression which corresponded with the body of the growth. The polypus was removed by a pair of scissors, and the patient sent to bed with a drainage tube in the bladder. After a somewhat tedious convalescence recovery ensued, and now, a year and a half after the operation, the patient was well, and his prostate had contracted up to its normal size. The growth proved by microscopical investigation to be purely prostatic. Mr Bryant made some comments on the case, which seemed to him to be very unusual. Indeed, he was unable to point to one like it. He drew the attention of the Society to the fact that the growth would never have been discovered if the fashionable supra pubic operation had been performed. Mr REGINALD HARRISON said that the history of the case showed the importance of adopting the perineal procedure in all cases of growth or of bleeding—at all events, within the region of the prostatic urethra. When the growth or other source of the bleeding was within the bladder the question of supra pubic operation might be open to be considered, but the mortality on this latter operation was far greater than with the perineal operation, and this, he believed, was due to the fact that it was resorted to in cases in which it was not applicable. Mr HULKE remarked on the analogy between the causation of hæmorrhage in this case and that occasionally observed in connexion with the presence of a polypus springing from the canal of the uterine cavity. Mr WARRINGTON HAWARD mentioned that he had recently removed a polypus from the bladder which corresponded very closely in shape and appearance to that shown by Mr Bryant. The man from whom it was removed had suffered from very profuse hæmaturia for six months previously. Failing to find a stone, he explored the bladder through the perineum and alighted upon a little polypus, which he twisted off without difficulty, removing an adjacent papillomatous elevation with the finger nail. From that time the hæmorrhage ceased. Mr CROFT, referring to the question of diagnosis, said that the only symptom which suggested that the tumour was not in the bladder, but in the prostatic urethra, was that blood flowed from the penis independently of the act of micturition. Mr CAMPBELL WILLIAMS suggested that if the urethra had been examined with the endoscope the growth might have been found, and he related a case in which by this means he discovered and removed a small polypus beside the veru montanum which had given rise to a troublesome urethral discharge. Endoscopic examination was particularly easy in young people with chronic gleet. The granular patches in the prostatic urethra were readily seen, local treatment soon diminished the size of the prostate, and the troublesome frequency of micturition ceased. Mr BRYANT, in reply, said it was probably generally accepted at present that in all cases of hæmorrhage the source of which was obscure the perineal exploratory incision was a perfectly justifiable operation. Mr Hulke's analogy would only apply to the case of a polypus from the cavity of the bladder that had been extruded into its neck, just as in Mr Haward's case. The occurrence of hæmorrhage independently of micturition was certainly an important diagnostic feature, for it showed conclusively that the source of the blood was anterior to the neck of the bladder. The curious point in the case was the fact of its being a myoma, showing that it came from the prostate. He was astonished to find how promptly the prostate returned to its normal calibre.

Dr DONALD W HOOD read a communication on the Etiology of Rötheln. He briefly referred to the clinical symptoms, which were generally known as rötheln, rubeola, or German measles. He drew attention to the extreme diversity of opinion held by various writers on the etiology of this affection, and he pointed out that these opinions differed not only as to the essential nature, specific or otherwise, of the contagion, but as to what might be looked upon as the fundamental symptoms of the disease. He endeavoured to prove on clinical as well as theoretical grounds that a hypothesis was not untenable which assumed that the specific contagion of measles being a living organism, as such would be liable to undergo variation and would be subject to evolutionary changes in adapting itself to varying conditions of "soil," and that some such hypothesis would afford a clue towards explaining the many affections of exanthematous character which departed more or less from the

true measles type. Clinically many conditions were known as rötheln. These conditions differing widely in both intensity and symptomatology, the writer would ask, Were such affections due to the same contagion, assuming different degrees of force or intensity, and profoundly modified by different states of "soil" and environment, or were they due to contagia specifically distinct the one from the other? In support of the hypothesis attention was directed to many points in the clinical history of measles and so-called rötheln. These points were severally discussed under the following heads. Personal experience of the various forms of exanthemata differing materially from ordinary measles, the variation in symptoms found with measles, immunity did it depend upon intensity? would a mild attack of measles confer immunity in the same degree as did a severe one? second attack of measles, the modification of measles by environment and by difference of "soil," the mutual want of protectiveness between rötheln and measles might it possibly depend upon degrees of intensity? was the general type of measles less severe than formerly? special reasons why the contagion of measles was placed under conditions which would apparently favour variation.—The PRESIDENT observed that much of the confusion and difference of opinion that had arisen amongst those who had described these measly rashes was due to grave errors of diagnosis. No diagnosis should be arrived at on the strength of any one symptom, but on that of the whole natural history of the case concentrated into one conception.—Dr ROUTH said his experience was that whenever any particular disease was present in the form of an epidemic other diseases were met with closely resembling it, but which were not it. The crucial test would be whether by inoculation of one disease one could produce the other disease. He looked upon the two affections as perfectly distinct. He pointed out that in rötheln the eruption did not, as in true measles, commence on the face, there was no cough or eye affection as in measles. The character of the eruption was very marked, being more blue in tint and partaking more of the roseolar element. Moreover, the lymphatic glands were uniformly enlarged in rötheln and not in measles, and directly the rash began to disappear all the symptoms disappeared also with remarkable rapidity.—Sir DYCE DUCKWORTH held that the two diseases were easily distinguishable, though cases occurred in which one seemed to merge into the other, this, however, had been observed in respect of many other of the exanthemata. He pointed out the differences in the period of incubation and the characters of the eruption between morbilli and rötheln, and referred to other clinical peculiarities in the latter, such as the sudden rise of temperature for a time, the affection of the throat and the general enlargement of the lymphatic glands. The protection which had for generations been afforded to infants by vaccination did not appear to have been transmitted to subsequent generations in respect of small pox and he therefore saw no reason to suppose that any immunity against measles should develop. The diminution in the incidence of measles was rather to be found in variations in intensity of the poison.—Dr PYE SMITH, speaking from experience, had not found it so very difficult to distinguish one disease from the other. After pointing out the differences in the symptoms of the two affections, he said that the distinction ought not to depend merely on the similarity or otherwise of the symptoms, but one ought to consider the natural history of the two diseases as a whole. There was at present no knowledge of the existence of a microbe in either of these diseases, and therefore it was premature to apply the logical doctrines affecting microbial development, and, further, there was no evidence that would justify the assumption of any transformation in pathogenic microbes. The alleged change of type of measles was probably due to conditions similar to those present in the Fiji epidemic.—Dr ENDOWES mentioned the case of a family which, shortly after suffering from an affection the symptoms of which accurately corresponded to German measles, was attacked by true measles. He thought that rötheln might be fully described as a disease that began like measles and later assumed the appearances of scarlet fever. He was inclined to believe that there was no set period of incubation for any disease, but that it depended more upon the condition of soil and the dose of the poison than on the nature of the disease.—Dr HOOD, in reply, said that he had only attempted to furnish a plausible explanation of the diversity of opinion that prevailed as to the relationship of these two diseases.

some years ago. The abdomen was full of fluid of glutinous character, and both ovaries presented thin walled and vascular cysts, which were ruptured at their ends, the latter being opened out like the petals of a flower.—Dr CULLINGWORTH remarked that both cases were typical of the difficulties in diagnosis which were present in many cases of abdominal tumour.—Dr SOLOMON SMITH asked if the intestines ultimately returned to their proper position.—Mr BATTLE, in reply, remarked on the serious nature of the cardiac complication in the second case. There was nothing to indicate the method of rupture of the cyst. He believed that the intestines returned to the lower part of the abdomen after the operation.

PATHOLOGICAL SOCIETY OF LONDON

Survey of Recent Work bearing on the Pathology of Cancer and Sarcoma

(Continued from p. 561.)

DR. ARMAND RUFFER, in continuing the debate on the above subject, said that he spoke in the names of his collaborators, Messrs. Walker and Plimmer, as well as for himself. He objected altogether to the word "psorosperms" which Mr Jackson Clarke had used. The psorosperms were a class only of the protozoa, and therefore Mr Clarke's contention that he used the word "psorospermiosis" on account of its indefiniteness was illogical. Until the whole of the life-history of these parasites had been worked out it was much better to use the word "protozoa." Thanks to the courtesy of Mr Clarke, he (Dr Ruffer) had had the opportunity of examining some of his preparations and he had no hesitation in saying that in his opinion there was not a single structure in any of them which could possibly be mistaken for a parasite, and that all he saw were cellular elements, some normal and others degenerated. He might refer to some preparations shown by Mr Clarke at the Society's meeting on Feb. 21st. The first two were described as (1) "cystic breast, logwood-eosin staining showing plasmodia," and (2) "sarcoma of femur, degenerated parts showing psorosperms and plasmodia sporing, Biondi's staining." The first section evidently consisted of fibrous tissue, there were a few round bodies, which stained very darkly with logwood and showed an intra nuclear network. He had no hesitation in asserting that these bodies, called plasmodia by Mr Clarke, were simply tissue nuclei, as they had all their characteristics, were undistinguishable from nuclei and were, in fact, perfectly healthy typical nuclei. The second preparation showed a large body of irregular shape, in which nuclei could still, though indistinctly, be seen, around it granular detritus and a few brown bodies could be distinguished. He did not know on what evidence Mr Clarke based the supposition that certain of these structures were plasmodia sporing and that others were psorosperms, but he had not the slightest doubt that the large body was the ordinary giant-cell found in myeloid sarcoma and that the surrounding bodies were red blood-corpuscles. They were sharply outlined, concavo-convex, and presented all the appearances of red blood-corpuscles insufficiently stained with Biondi's reagent. Another section was labeled "carcinoma in septum of the nose, stained red," the section was not sufficiently stained or properly cleared, so that all that could be seen were a few round bodies, which stained faintly with carmalum. It was impossible to say from the preparation what these bodies were, and had the section been labeled "section of testis," or "spleen," or "lymphatic gland," or even of "vegetable tissue," no one could have contradicted it, for it was impossible to make a diagnosis by looking at the preparation. Mr Clarke had also shown him a section of carcinoma of septum of the nose in which he described a large plasmodium with a nucleus sporing. In his opinion this large plasmodium was nothing more than a typical epithelium cell, and he was ready to demonstrate that kind of plasmodium in any section of skin from any normal, healthy person. If Mr Clarke chose to call epithelial cells plasmodia, then all he (the speaker) could say was that the healthy body, from the crown of the head to the tips of the toes was lined with large plasmodia provided with sporing nuclei, and that there was no reason why the liver, for instance, should not be described as a large bag lined with psorosperms. Lastly, he would draw special attention to the fact that not in a single preparation which Mr Jackson Clarke had shown did there appear to be demonstrated a

single parasitic body such as Soudakewitch, Foa and himself had described. He considered the whole of Mr Clarke's theories to be based on a succession of pathological mistakes. He (Dr Ruffer) then referred to his own work on the subject, entering more specially into a discussion of the objections raised by his friend Professor Boyce, as to the possibility of these parasitic bodies being simply chromatin corpuscles which had found their way out of the nucleus. In his opinion this was impossible, since these parasitic bodies did not show the reaction of chromatin, after having been treated with Foa's solution, with picric acid, or with chromic acid and alcohol and stained with aniline blue and eosin. The two substances, that formed the nuclei of the parasite, and the chromatin forming the cell nucleus, were absolutely different in all their micro chemical reactions. On the other hand he thought he could confirm the observations of Messrs Shattock and Ballance as to the extrusion of small chromatin particles out of the nucleus, and as to their finding their way out of the cell, but he was unable to attach any signification to this phenomenon, as a similar appearance could be seen in normal epithelial tissues. The fact that it occurred in animals during foetal life was proof positive that these small chromatin particles were not parasitic in their nature. Dr Ruffer then gave a description of the mode of reproduction of parasitic bodies which he had observed in carcinoma. The reproduction was carried out through the division and subdivision of the parasite's nucleus, the capsule then also subdivided, until at last a whole zoogloea-like mass of parasites was produced. The formation of true spores he had never observed, but it was quite possible that these young parasites were more resistant, and possessed some of the functions and properties of true spores. Lastly, he would again repeat that it was evident to him, to Mr Plimmer, and to Dr Woodhead that Mr Jackson Clarke did not appreciate the specific character of the parasite which he (Dr Ruffer) had described, as he was quite unable to demonstrate it in a single one of his preparations. He had spoken strongly because he thought that sweeping statements as to the cause of cancer and sarcoma, such as Mr Clarke had made, did incalculable mischief, not only amongst the medical profession, but even among the general public, and he considered it therefore only right that one who did not claim to be an authority, but who had, nevertheless, arduously and conscientiously worked at the subject with the best available methods, should come forward and say that the conclusions were erroneous because the supposed facts on which these conclusions were based could not be demonstrated. Dr Ruffer concluded by saying "He had no wish to do anyone an injustice, he proposed, therefore, that Mr Clarke's sections be referred to a special committee, and if they found that his interpretation was wrong or that he had done Mr Clarke an injustice, he would come forward and acknowledge his mistake publicly."

MR JACKSON CLARKE, in reply, said that he used the term "psorosperm" in the same sense as Cobbold, Malassez, Silcock, Delpine and others. If the name of any other person were to be associated with the parasites it should certainly be that of Pfeiffer, who first published an account of them. It was most undesirable to attach the name of any observer to any single stage of the parasite's existence, because if this were done there would soon be quite a directory of names in use. He was surprised that none had criticised his paper on psorospermiosis of the urinary tract, because with that his work on cancer and sarcoma stood or fell. Dr Boyce had given an exposition of the views of cancer universally accepted three years ago, but now no longer tenable. He had not explained the fact that the large, apparently degenerated cells met with in squamous epithelioma could be anything but sporozoa, which he (Mr Clarke) held was proved by the sections he placed before the Society. If Dr Woodhead was right in his interpretation of the appearances demonstrated by himself, then it followed that he had made many new observations, such as the presence in sarcoma of intra cellular cells some of which had exactly the characters of those described by Soudakewitch in cancer and others exactly corresponding to those described by many observers in cancer as sporozoa in their various stages of life. The opinion of Mr Laurie, an experienced biologist, agreed with his own that the specimens from the milk-ducts showed cocoidal infection. He had no doubt that the Ehrlich Biondi stain had led Ruffer, Walker and Metchnikoff to mistake swarm spores for phagocytes. He rejected the hypothesis of cell invagination. The normal epithelial cells were developed under pressure, but they were not invaginated, though some

grave and life was, as a rule, only prolonged for a time, if the same relief could be got from a milder operation the latter should be chosen. He had vertically divided the mucous membrane over the tumour with a Paquelin's cautery and then shelled out the growth with the finger and a blunt instrument, taking the precaution to first remove the glands in the neck, leaving a sponge in the wound, so that he could easily press on the vessels if hemorrhage in the mouth should be troublesome. Of his three cases one (a male) was alive a year after operation, and of the remaining two (females) one died eight months after wards of recurrence, whilst the other (a young woman aged twenty three) was alive three or four years afterwards. — Mr JOHNSON, in reply, said that the tumour he removed was unlike the encapsuled ones which had been referred to, but was of such a nature that it could not have been shelled out unless the whole mucous membrane round it had been divided by cautery.

MEDICAL SOCIETY OF LONDON

Treatment of Lupus of Face by Free Removal and Skin Grafting with Large Flaps — Abdominal Section for Tumours presenting unusual Characters

AN ordinary meeting of this Society was held on March 13th, the new President, Dr Bristowe, taking the chair for the first time. Unanimous votes of thanks were accorded to Mr Hutchinson, the retiring President, and the other retiring officers of the Society.

Mr BRUCE CLARKE read a paper on the Treatment of Lupus of the Face by Free Removal and Skin Grafting with Large Flaps. After alluding to the length of time which had elapsed since skin grafting had first been attempted, he passed briefly in review the various plans which had been adopted for the repair of lost skin, pointed out how great an improvement had been effected by Wolfe's method and finally by Thiersch's, which was the mode referred to in his paper. He briefly described the mode of cutting the grafts and pointed out that it was necessary to arrest all bleeding before applying them to fresh surfaces, otherwise they would not adhere. He had treated some six or seven cases of lupus by this plan, and was certain that it was a great improvement on mere scraping. He had made a series of microscopic sections of one case on which he was operating and he felt sure that much more tissue must be removed than could easily be done with a Volkmann's spoon if the diseased structures were to be extirpated, and unless this were done no permanent cure would result. — Mr Bruce Clarke then showed two cases the first was that of a young woman on whom he had operated about eleven months ago, removing the lupoid tissue by excision, baring the cartilage of the nose and clearing out the diseased mucous membrane from the interior of the nasal cavity. The second case was also in a woman, and was one of lupus of the nose of a more exuberant character. In this, owing to failure to excise the growth at the margin, there had been a slight recurrence of the disease. — Mr WATSON CHEYNE also showed a case of lupus of the face in which both cheeks were extensively involved. He excised the growth freely, including the skin, for from a quarter to half an inch beyond the patches and then applied very extensive grafts. The back of the hand, which was also involved, was treated in the same way. — Mr L. BIDWELL exhibited a girl aged nineteen, who had a large patch of lupus on the inner side of the thigh, which had been freely excised and the raw surface covered with Thiersch's grafts. A good result had been obtained. He showed another woman with an extensive patch of lupus over the front of the shoulder. Scraping and treatment by Unna's plaster having failed, he freely dissected out the diseased tissues, removing the subcutaneous fat at the same time, with a good result. — The PRESIDENT thought that the measures recently introduced tended greatly to minimise the danger of recurrence of the disease. — Dr RADCLIFFE CROCKER said that the method at present in vogue was as great an advance upon scraping as scraping had been upon previous methods. For the last two years whenever he had dealt with a small patch he had practised excision. In order to prevent the graft curling up it should be laid on a sponge and then applied to the raw surface in the same way that a gilder used gold leaf. — Mr BALMANSO SQUIRE referred to a case which Mr Durham showed some years ago at the Clinical Society in which after excision of a patch of lupus, he partially detached small

strips of skin from the periphery and moved them towards the centre of the raw patch. The method under discussion could not be applied to lupus of mucous membranes. For lupus of the ala of the nose he held that the best treatment was scraping with a very small sharp spoon and following this by linear scarification. — Mr C. B. LOCKWOOD said that the results which had been obtained were better than those usually seen after treatment by ordinary methods. The tissues far beyond the seat of the growth, whilst looking apparently healthy, would often be found on microscopical examination to show the cell infiltration characteristic of the disease. — Dr SOLOMON SMITH said that the sheet grafting left a cicatrix which possessed great elasticity. If it were necessary after the operation to plug the nose with iodoform gauze the latter should be wrapped round a drainage-tube to permit of air passing through, which prevented an ozonic odour developing. — Mr BRUCE CLARKE, in reply, said that the recurrence in one of the cases was due to the fact that he had not removed the skin surrounding the ulcer sufficiently freely. By injecting tuberculin beforehand a surgeon might be able to better define the limits of the outlying patches.

Mr W. H. BATTLE related two cases of Abdominal Tumour which presented features of unusual interest. Both were probably of ovarian origin and were unusually movable, but differed altogether in their composition, in their history and in the symptoms to which they gave rise. The first case was that of a married woman aged forty-one, who applied at the out patients' department of St. Thomas's Hospital in July of last year. She presented a lipoma of the shoulder of eight years' standing and a tumour of the abdomen, which was first noticed nine months previously. The tumour was round, smooth, of the size of an orange, flattened and painless, it lay usually in the right iliac fossa, but could be carried into either lumbar region, upwards under the liver or even into the left hypochondrium, always returning to its original position. The tumour was cut down upon by a median incision, it was found to be fluctuating and was therefore punctured, but no fluid came through the instrument. The contents, which consisted of hair and fat, were therefore evacuated by pressure, and the tumour drawn through the incision and separated from its attachments. These were three in number to the omentum by means of a thick, broad band, to the right ovary, which was small, by a thin pedicle, and to the large intestine by a long adhesion. The patient made an uneventful convalescence. Mr Battle insisted on the difficulty in arriving at an accurate diagnosis, opinions varying between movable kidney, floating spleen, subperitoneal pedunculated fibroid, ovarian tumour with a long pedicle, lipoma of omentum and dermoid cyst of omentum. He alluded to a somewhat similar case under the President's care which was removed by Mr Sidney Jones from a woman aged thirty-five. The second case was that of an unmarried woman aged twenty-one, admitted to St. Thomas's Hospital on June 28th, last year, with an abdominal swelling. There was a history of empyema discharging externally eleven years previously. Three months before admission the abdomen had begun to swell, with increased shortness of breath, but no palpitation, there had been hematemesis and cardiac valve lesions were present. The abdomen was much distended, but there were no enlarged veins, a cross thrill could be easily obtained. There was a large fluctuating hernial swelling in each labium, easy of reduction, and a protrusion of the posterior vaginal wall. There was transient albuminuria. Later a large hard mass was felt in the abdomen a little to the right of the middle line, freely movable in every direction. A median incision was made into the abdomen and ten pints of thick glutinous fluid evacuated from the peritoneum. A multilocular cystic tumour was found originating in the left ovary the cysts containing very thick fluid. It had a very long pedicle and one of the loculi was found to open freely into the peritoneal cavity. In consequence of the prolonged pressure of the heavy fluid, the small intestines and omentum after the operation remained in the upper part of the abdomen, and showed no tendency to fill the lower part of the pelvis leaving consequently a large unoccupied space, across which the abdominal wall passed something like the membrane of a drum. A quantity of air was found to occupy the hernial sacs for nearly three weeks after the operation. Owing to the signs he was at first inclined to regard the case as one of sarcoma with secondary peritoneal growths and nodules. — The PRESIDENT quoted a case in which he made the necropsy

quality of its practitioners of verse who were or are practitioners of the healing art. Not to mention Keats, cut off in the preliminary stage of the medical career, there are Thomas Lovell Beddoes, memorable if only for his simile of the violet—

"Like Pandora's eye
When first it darkened with immortal life,"

David Macbeth Moir, some of whose lyrics and sonnets can perish only with the English language, Edward Gordon Rake, Oliver Wendell Holmes (American by birth, but English by mother tongue), and S. Weir Mitchell, also a Transatlantic physician of approved poetic power. North of the Tweed we have in more than one contributor to the "Lays of the Colleges" a striking exemplar of Carlyle's medical "singer"—notably the late Dr. James A. Sidey, whose "Burnie that runs to the Sea" may rank with the best lyric of Tannahill or the Ettrick Shepherd, and the editor of that volume himself, Sir Douglas MacLagan, whose translations from the German are hardly inferior to their masterly originals. Nor even in our own day are there wanting rivals of the Latin medical poets so numerous in the sixteenth century. Sir Henry Hallford, whose biography we are glad to see announced, was the author of beautiful elegiacs and the late Dr. Francis Adams of Banbury, N.B., also published specimens of the Ovidian or Propertian muse not unworthy of the *genus loci*.

Mr. John A. Goodchild has been for some time before the world as a medical poet, and his "Somnia Medici," of which the three instalments are now in their second edition, disclose rare powers of imagination and rhythmical expression. His mood is a versatile one and ranges from the simple ballad to the elaborate sonnet, from the occasional lyric to the dramatic dialogue, from the airy satire to the delicately coloured idyll. He makes no attempt to produce a great whole, probably the conditions under which he writes are not favourable to anything like prolonged or sustained effort. But all he gives us is carefully finished, the evident product of a fastidious workman, schooled under many masters and inured to severe self-criticism. The reader soon responds to a poet who withholds all but his best, and he finds his reward in compositions which are never without original thought or refined sentiment, conveyed in verse almost uniformly felicitous in choice of metre and harmony of cadence. Open any volume of the three at random—the earliest, for instance—and the reader will not go far without finding our criticism justified. In "The Withered Rose" (First Series, p. 8) he will recognise a romance "most musical, most melancholy" unfolded in rhymed triplets that break on the ear like the measured plash of the sea wave on the shore, rising and falling from time to time in a noble "trikumla," as the Greek critic would have said. The idea thus rendered is the old, old one of earthly love bereft of its object, whilst its sense of privation is softened with the hope that the "solution of continuity" is not eternal, but that reunion will be effected in a not distant hereafter. Mr. Goodchild has given a freshness all his own to the theme and embodied it in verse which haunts the sympathetic reader. There is merit of an equal, though diverse, kind in "Winne," in "In a Studio," and in "Honour" the latter full of powerfully dramatic touches. From these studies in character and situation the transition to the passing controversies of the day is considerable, but here again Mr. Goodchild maintains his unusually high level of thought and expression. In "Anti vivisection" we have a pungently satirical sonnet directed at a notorious agitation, followed up by another composition of the kind approximately called "Antics," in allusion to the "anti" mood so dear to many whose first instinct is to "oppose," however undeserving of "opposition" the cause or the creed may be. All through his poems, indeed, Mr. Goodchild appears as the vindicator or apologist of the profession, whether directly in his exposure of popular fallacies or

narrow minded "fads," or indirectly in his continuous demonstration that the work-a-day life of the medical practitioner implies nothing of that divorce from culture and literature which supercilious outsiders are sometimes prone to assume. His volumes, of which the space at our command compels us to notice the first only, are one proof the more that literary, even poetic, accomplishment of a high order is not incompatible with a calling the practice of which leaves but too little time for its published manifestation, and that, if other professions have contributed more largely to the library of the man-of-letters or of the *dilettante* than the medical, it is for no lack of power in the latter, but rather from the time denied to it or from the opportunities withheld from it.

Physiologie Travaux du Laboratoire de M. CHARLES RICHEL, Professeur à la Faculté de Médecine de Paris. Tome I. Paris: F. Alcan, 1893.

THIS, the first volume representing the work done in M. Richet's laboratory, contains eighteen memoirs by himself or by his pupils, some of which date back as far as 1880 and are only reprints. Though most of them have been published elsewhere, M. Richet thinks that, as they deal with facts and not with theories, they may prove of service to the working physiologist, especially as they have appeared in different journals now not easily accessible. He promises two more volumes in the course of the ensuing year, of which the first will contain the memoirs by students working in his laboratory on chemical physiology and the second their studies on toxicology and pathological physiology. The section on Animal Heat contains a very exact and interesting account of the history of calorimetry, from the first experiments of Lavoisier to the present time. In the course of this the author observes, in a note on Dr. Wood's experiments made in Philadelphia, that the use of English weights and measures instead of the decimal notation practically dooms a scientific work to neglect on the continent, for few, like himself, will take the trouble to make the necessary calculations for their conversion. He describes Lavoisier's, Dulong's, Senator's, D'Arsonval's and his own ingenious instruments, and gives many details of the difficulties he encountered and of the sources of error he had to avoid. He points out the influence of size in the animal, of external temperature, of the integument, of the nervous system and of other conditions on the production of heat.

The republished memoirs of M. Charles Richet himself are—1. A Contribution to the Physiology of the Nervous Centres and Muscles of the Lobster, which contains much matter now incorporated into our text-books. 2. The Movements of the Frog following Electrical Excitation. 3. The Influence of the Duration and of the Intensity of Light on Luminous Perception. In this essay M. Ant. Breguet's name is associated with that of M. Richet as joint author of the paper. 4. Experiments on the Brain of Birds. 5. Psychical Blindness induced by Experiment in the Dog, with Necropsies. 6. On the Muscular Sensibility of Respiration, written in conjunction with M. P. Langlois. 7. On the Duration of Reflex Phenomena in Anæmia. 8. Two Experiments on Inhibition in the Frog. 9. Researches in Calorimetry. 10. On the Weight of Animals. 11. A New Function of the Medulla Oblongata—viz., the Regulation of the Temperature of the Body through the Respiration or Thermic Polypnoea. 12. On the Respiratory Exchanges in Man, written in conjunction with M. Hanriot. 13. On the Respiratory Exchanges of the Dog. 14. On the Respiratory Exchanges in Mammals. 15. On the Respiratory Exchanges in Birds. M. Langlois contributes a memoir on the Study of Calorimetry in Man, M. Rallièrre gives an account of his Experimental Researches on Death by Asphyxia, and M. Saint Hilaire writes on the Influence of Organic Temperature on the

of them were flattened. He had frequently observed that a cell infected by a parasite had been carried into another cell, and the parasites surrounded and indented each other. He had also frequently observed spores in these so called "invaginated cells." As to the hypothesis of central keratinisation put forward by Boeck and others to account for certain cell inclusions, it was in the highest degree improbable, because in normal conditions keratinisation was always peripheral, and though drops of keratin hyaline might appear centrally they dissolved again in the cell protoplasm before keratinisation occurred. These so called keratin masses were present in sarcoma as well as in cancer, and were ripe psorosperms. He regarded the phenomena observed by Messrs Shattock and Ballance in sections of incubated cancers as due to the life of the parasites continuing after that of the tissue had ceased. If the intra cellular stage of the parasite were the only one present in cancer, it might be dismissed from consideration, and seeing that the pathological features of cancer and sarcoma were so much alike, anything besides epithelial cells that happened to be present in cancer could be put aside as unimportant if similar bodies were not found in sarcoma. He showed sections and also photographs taken by Mr Roughton illustrating the process of spore formation in cancer and the intra cellular parasites in sarcoma. Some of the photographs from unstained, fresh specimens showed the details of structure quite as clearly as those taken from sections of cancer hardened and stained in various ways. He regarded all the "cells of endogenous origin" of Virchow and the "cells with irregular mitoses" of cancer and sarcoma of Klebs and others as parasites. He claimed to have fully demonstrated the process of swarm spore formation, and since the last meeting he had observed in cells from a duct of a cancerous breast the bodies placed before the Society with all the characters of lasting spores of the microsporidia. The parasites accounted fully for all the phenomena of cancer and sarcoma. Since the last meeting he had seen notices of a paper by Foa, who described in cancer coccidia which went through the process of swarm sporing the spores immediately attacking new epithelial cells. In another paper Wernicke had found sporozoa in mycosis fungoides, an affection everywhere regarded as a form of sarcoma. In conclusion, he confidently left his work to the proving of time.

The PRESIDENT (Sir George Humphry) remarked on the ability and the patience which had been displayed by Mr Clarke under the trying fire of adverse criticism. The subject was one of extreme difficulty, and even the most distinguished microscopists seemed unable to agree what were the changes due to protozoa and what were those due to vital changes in the cells themselves. The question still required much serious examination for its elucidation. And, furthermore, there remained the interesting pathological problem how far could protozoa cause the proliferation of cells and the development of intervening connective tissue which together made up the essence of cancer.

The following card specimens were shown —

Dr R. G. HENB. Specimens of the "Cancer Body"
Dr LEE DICKINSON. (1) Stenosis of Left Bronchus caused by Dilatation of Left Auricle, (2) Aortic Aneurysm bursting into Left Bronchus, (3) A simple Gastric Ulcer unusually situated.

Reviews and Notices of Books.

A Manual of Diseases of the Ear By GEORGE P. FIELD M.R.C.S. Fourth Edition London Baillière, Tindall and Cox 1893

THE issue of a fourth edition of this work is sufficient evidence of its popularity and of the growing interest taken in ear surgery. In this edition the work is considerably enlarged and a number of new illustrations have been added of an anatomical or pathological character. These have been undertaken by Mr Jackson Clarke and are, on the whole, clearly executed and accurate. The plan of exhibiting diseased appearances of the membrana tympani through a painted speculum has been adhered to. Some of these paintings, as that of muco-purulent collection in the cavity of the tympanum (p 198), seem to us too highly coloured and would give the idea to a novice that the membrane might

be a transparent structure. The illustration of multiple exostoses is excellent. It is well to point out, however, that these growths are very seldom situated as near the orifice of the meatus as here depicted. The illustrations of preparations on p 212 are exceedingly good. The chapter on exostosis is full and clear, and Mr Field still gives preference to the dental engine in dealing with ivory growths. An important addition to this work is the chapter on the results of suppurative middle ear mischief, in which a good summary is given of the leading symptoms of cerebral abscess and sinus pyæmia. Mr Field wisely does not divide and subdivide varieties of chronic middle-ear inflammation, and his directions for treatment are clear and explicit. In dealing with this subject he does not mention the operation of excision of the drum and ossicles so largely practised in America. In the chapter on tinnitus aurium he speaks of the proceeding, but appears never to have adopted it. Mr Field seems to take a more favourable view of tinnitus cases than do some aural surgeons, for he asserts that if suitable treatment be adopted cure is to be hoped for. The term "relief" would, we venture to think, better agree with the experience of those who have had much to do with these troublesome cases. As may be expected, Mr Field stoutly maintains the value of the pilocarpine treatment in labyrinthine deafness, and we are glad to see that in his book he agrees with Politzer that this drug is mainly useful in nerve deafness only. He throws out the hint that true labyrinthine deafness is, after all, exceptional, and that many cases that have been sent to him for this treatment were examples of other kinds of disease. Dr Cagney has written an excellent article on the electrical treatment of tinnitus and nerve deafness. From all points of view this work may be said to come well up to modern standards, while what may be termed experimental modern ear surgery is judiciously neglected. The book may be read and studied with advantage by anyone interested in the subject, and this improved edition will certainly maintain the popularity of its predecessors.

Somnia Medici By JOHN A. GOODCHILD First, Second and Third Series Second Edition London Kegan Paul, Trench, Trübner and Co 1892

CARLYLE, in a memorable passage, has told us how naturally the medical man may develop into "the singer" — given the true heart that determined him to the most humanitarian of all professions and the fine sense of the beautiful that belongs to every genuine student of the cosmos, moral and material. If to these essentials he adds what Wordsworth calls the "gift of verse," a gift often possessed by an unsuspecting owner and capable by culture of infinite improvement, he may almost insensibly become "the singer," such as every European nationality can show us and none in greater variety than our own. The sixteenth century of our literature produced distinguished medical poets, not a few of them Scottish, whose language, however, was mainly Latin, in which, as Arthur Johnston lets us see in his "*Delitæ Poetarum Scotorum*," the votary of Apollo may be as strong on his literary as on his therapeutic side. The century succeeding gives us others of not inferior merit masters "*utriusque lingue*," but most effective in the vernacular. One really representative name amongst them is that of Henry Vaughan, "the Silurist," whose "*Sacred Poems and Pious Ejaculations*" as edited by Henry Lyte (himself a hymn writer of rare felicity) reveal the "physician and singer" in admirable combination. Last century abounded in medical poets, didactic, lyrical and dramatic, of whom Goldsmith, Smollett and Akenside may be indicated as amongst the more prominent, whilst the century just closing surpasses all its predecessors in the number and to some extent, in the

he has made out a fair if not a very strong case in favour of his hypothesis, but that further inquiry must show whether it is correct or not.

From our Dead Selces to Higher Things By FREDERICK JAMES GALT, F.R.C.S., Author of "The Lord of Humanity" and other works London James Nisbet and Co 1893.—This is a wholesome book of its kind, and, whether the reader agree wholly or partially with the author or not, is worthy to be read in quiet moments. Of course the general theme bristles with difficulties if looked at from a philosophical point of view, or even from the standpoint of the religious disputant. But, accepting the current thought of orthodox believers in the Christian system, no serious exception is likely to be taken to the way in which the subject is presented. In discussing the various points offered for consideration the author has the advantage of possessing, by virtue of his calling, an intimate acquaintance with the frailties of human nature and with the struggle often required to be undergone by those who seek to attain a higher grade of moral excellence. The subject of the work, however, is scarcely suited for discussion in our pages, and, whilst according our sympathy with the purpose of the author, we must leave the criticism of his book to the theological controversialist.

Certifying Surgeon's Daily Report Book Manchester T. H. Hayhurst.—This little book has been designed by Dr James Holmes, hon. secretary of the Association of Certifying Factory Surgeons, and appears to be very well suited to the purpose it is intended to serve. The book is divided into four sections which are severally distinguished by the adoption of variously tinted paper, so that each section may be readily referred to. In the first section the number of cases is to be recorded, with age, sex, name of firm &c., the second is intended to record particulars of cases rejected, with reasons for rejection and the nature of manufacture for which the certificate was refused, and so on, in the third section space is reserved for a record of reports of accidents, for the name of the person injured and the nature of the injury sustained, finally, blank sheets are provided for the entry of general memoranda. For the purpose of assisting certifying surgeons in the work imposed upon them by the Legislature, we cannot doubt the book will be of distinct value. Probably some little modification in its arrangement may be suggested by further experience.

Analytical Records

FROM

THE LANCET LABORATORY

WALDEN'S EXTRACT OF BENNET

(R. W. WALDEN, EATON SQUARE, S.W.)

THIS preparation is evidently the genuine extract of the fourth stomach of the calf. It readily curdles cow's milk at blood heat and the resulting sweet whey may easily be decanted and subsequently treated with a sufficient quantity of milk sugar and new milk, so that its composition may be made to simulate mother's milk. The rennet powder is well adapted also for the preparation of junket, but from the certainty of its action and the ease with which it may be used it is more valuable for the former purpose. Being in the form of a dry powder, the curious ferment contained in it is less likely to undergo undesirable changes in keeping—a distinct advantage over the liquid preparation.

FRUIT SALT BAKING POWDER.

(W. G. DUNN AND CO., CHARTERHOUSE)

This powder is free from objectionable ingredients and more particularly alum. It simply contains well known salts

which when moistened interact and evolve carbonic acid gas. We protest against the use of alum in baking powder. The laws of the country do not allow alum to be used in bread flour or other foods, and although baking powder is not a food any more than are pepper, vinegar, and mustard it is solely and ostensibly made for no other purpose than for incorporating with certain foods with the object of rendering them porous and light.

ANGIER'S EMULSION OF EARTH OR ROCK OIL WITH HYPOPHOSPHITES OF LIME AND SODA.

(ANGIER CHEMICAL CO., BOSTON, U.S.A. AND 32, SNOW HILL, E.C.)

From a chemical point of view the idea of using a pure bland hydrocarbon as a vehicle for hypophosphites is decidedly advantageous, for the preservative properties of a hydrocarbon like petroleum are well known. As a matter of fact, we found in the above preparation the hypophosphites intact, whilst there was little fault to find with the state of the emulsion, which, under the microscope, was seen to consist of minute globules uniformly distributed. The condition of emulsion is destroyed on the addition of ether, especially in acid solution, and the hydrocarbon left on evaporation of the ether consisted of a semi solid fluorescent oil, becoming quite limpid at 34° C, and boiling above 300° C. That the hypophosphites exist as such was evident from the fact that the emulsion on ignition burnt with a weird looking greenish flame from the formation of phosphuretted hydrogen due to the reduction of the hypophosphites by the boiling hydrocarbon. The emulsion is perfectly neutral to test paper and gives but feeble evidence to the taste of the presence of petroleum. Petroleum has seldom been employed in this country for internal use, although it has been used both as a vehicle and a medicament in the United States. It has been administered in the treatment of affections of the air passages and for the relief of uterine disorders, its action being chiefly to allay local irritation. The oil used in this emulsion is according to our own experiments, specially refined and purified, and it may therefore be used with confidence if intended for internal administration. Apart from its stable character, there are other features possessed by a seven times purified hydrocarbon which will doubtless induce practitioners to give this interesting and novel preparation a trial.

BISCUITS CONTAINING SYR. FERRI PHOSPH. CO

(J. D. MARSHALL, 5 PICCADILLY ROAD S.W.)

There is nothing about the flavour of these biscuits to indicate the presence of an iron salt, on the contrary, they are very palatable and their texture is satisfactory. Each is stated to contain a teaspoonful dose of syr. ferri phosph. co. This statement is so far borne out by our examination, when the biscuits are soaked in water, for example, the solution is found to be distinctly acid, iron and phosphates being present according to chemical tests. Under the microscope it is evident that oatmeal and wheat flour form the basis of the biscuits. The addition of iron does not appear to alter the condition of the cereal proteins, for experiment showed a notable proportion of soluble nitrogenous matter.

New Inventions.

DEAN'S CLINICAL THERMOMETER.

THE instrument invented by Mr A. E. Dean, jun. 73, Hatton garden, has the novel feature in a clinical thermometer of the readings commencing at the upper part of the stem, away from the bulb. When an observation is taken it is therefore necessary to invert the thermometer, and the column of mercury which has been detached from the bulb and has passed the constriction flows down the stem to unite with a small quantity of mercury

Action of some Toxic Substances All these memoirs are interesting and will repay the study of those who have not already perused them

Manuel de Petite Chirurgie de A. Jamain Septième Edition, illustrée de 415 Figures intercalées dans le Texte. Par FÉLIX TERRIER, Professeur à la Faculté de Médecine de Paris, Chirurgien des Hôpitaux, et M. PÉRAIRE, Ancien Interne des Hôpitaux de Paris Paris F Alcan 1893

THIS is a very popular French text-book, which has held its place for many years. In preparing this new edition, Professor Terrier has been assisted by one of his pupils, Dr Péraire. Together they have made a careful revision of the text and have brought it well up to date. The various details of antiseptic and aseptic surgery are very carefully described in their application not only to wounds but to such matters of minor surgery as explorations of various kinds, catheterism and dentistry. Several methods of sterilising instruments and dressings are given, and in all pertaining to this part of the surgical art the book is thoroughly trustworthy. The English reader finds in it some things with which he is not familiar and misses others that he would surely find in any British text-book on minor surgery. For example, there is no reference to Sayre's method of treating fracture of the clavicle, or to Carr's excellent splint for fracture of the radius, or to Clover's or Ormsby's apparatus for the administration of chloroform and ether. It is unfamiliar, too, to find the bandages carried round the limbs the reverse way to that practised on this side of the Channel. But, as we have said, it is a capital manual, and worthy of a better binding than that which is called by the publisher "*un élégant cartonnage anglais*."

LIBRARY TABLE

The Shop Hours Act, 1892, with Notes and a Form. By JAMES ROBERT VERNAM MARCHANT, of Gray's Inn, Barrister at-Law London Effingham Wilson and Co 1892.—An Act which is based on the undoubted fact that "the health of many young persons employed in shops and warehouses is seriously injured by reason of the length of the period of employment" cannot be without interest to the members of the medical profession. It is curious to notice that whilst grown up working men are clamouring for legislation to restrict their work to eight hours a day, and whilst last year many candidates for Parliament were prepared to concede such legislation Parliament itself was occupied in passing the above-named Act, which is meant to protect young persons of either sex, that is, persons under the age of eighteen, from being employed in or about a shop for a longer period than seventy-four hours, including meal-times, in one week. The Act is an important one and is not so likely to remain a dead letter as previous Acts of the same sort. Inspectors may be appointed by town councils to see that the provisions of the Act are observed, and already the London County Council has made such appointments. The Act is not quite easy of construction, owing chiefly to the fact that many of the provisions of the Factory and Workshop Act, 1878, are incorporated with it, as Mr Marchant says, in a somewhat reckless way. It was a happy thought to put the Act into a compendious form and to give with the sections of it such explanations, by a competent lawyer, of the provisions of the Factory and Workshop Act as to make it intelligible to those interested in it, who must number many thousands. In an appendix the provisions of the Factory and Workshop Act of 1878 are given. A good index greatly facilitates reference. Mr Marchant has done his work well, and the volume makes a worthy addition to Wilson's legal and useful handy books.

Notes on the Newer Remedies their Therapeutic Applications and Modes of Administration. By DAVID CERNA,

M.D., Ph.D. Philadelphia W.B. Saunders 1893.—This is a very handy little book containing brief records of the therapeutic applications of the newer remedies. The plan followed is to give a brief account of the nature, the physical properties, therapeutic applications, and mode of administration of each new remedy in turn. Advisedly, the author has omitted all details of physiological action and all bibliographical references. This is perhaps to be regretted, as the result is that statements of unequal value seem to receive equal importance of treatment. In studying the growth of any new science much assistance in winnowing the chaff from the wheat can be derived from a passing reference to the source of the new statements. The author has done his work carefully and has compiled a very useful little book of reference, which is well up to date.

De la Cataracte Senile Historique, Causes, Prophylaxie et Traitement Médical. Par le Docteur A. FERRET Paris Société des Éditions Scientifiques Pp 131 1893.—This treatise commences with the history of senile cortical cataract and of the operations that have been undertaken for its removal. It appears to be an *avant-courier* of a larger work on ophthalmology that Dr Ferret is about to publish. He believes the term "cataract" to have been given to the affection by the Arab physicians who translated the works of the Alexandrian Greeks. They used a periphrasis signifying a fall of water in the eyes as a synonym of the terms employed by Galen and his successors to designate the disease. In the barbarous Latin of the Middle Ages a fall of water was a cataract, and the Salernian physicians, who received their medical education from the Arabs, accepted the term and this led to its general adoption. The determination of the methods of operation and of the indications for operation the author considers were satisfactorily laid down by the French surgeons of the last century, and he contends that other methods of cure besides that by operation have been too much neglected. Dr Ferret then proceeds to unfold his view of the etiology of this form of cataract. He distinguishes two forms of senile cataract, the hard nuclear and the soft cortical form, and states that he was led to the opinions he holds by having observed in a visit to two islands in the south of France that in one there were twenty-one cases of cortical cataract amongst 6000 inhabitants, whilst in the other there were only three in 7000 inhabitants. In seeking to explain this great difference in the proportion of cases he was unable to find any reason for it in the diet, clothing or habits of the people except that in the island where the cases were most numerous there were saline marshes. Further observation led him to the conclusion that a condition of the blood which he terms "hyper-chloræmia" is eminently likely to lead to cortical cataract. He supports his view by pointing out that the Arabs and the Kabyles of Algeria enjoy immunity from cataract and that these tribes consume very little salt in their food and considers that cataract is diminishing in the country population of Paris because they live much less exclusively on salted provisions than formerly, whilst the consumption of the potato, by introducing into the system the salts of potassium which replace the salts of sodium, has been an additional factor in reducing the frequency of cataract. Moreover, he has been able to induce cataract in rabbits by subjecting them to a diet in which much salt was added to their food, and he refers to the experiments of Kunde, in which the lenses of frogs were rendered opaque by introducing salt beneath the skin of a part of their bodies kept above the surface of the water. The final stage of the senile cortical cataract is the Morgagnian cataract, which is certainly rare. It is difficult to discuss Dr Ferret's views in the absence of any data in regard to the relative frequency of cataract in those tribes which do and do not use salt freely, and all that can at present be said upon the subject is that

THE LANCET.

LONDON SATURDAY, MARCH 18, 1893

IN the Croonian Lecture on the Position of Pathology amongst the Biological Sciences, Professor VIRCHOW, who stands in the very first rank of the investigators of this century who have utilised the general principles of biology in the elucidation of pathological problems, and who has offered to biologists as a result of his pathological investigations many and important biological facts, brings before us with exceedingly great clearness the wonderful advances that have been made in the study of pathology and biology during the last fifty years. It was fitting that the Royal Society, before which, over 300 years ago, LEEUWENHOEK presented the results of his investigations made with the aid of his own microscopes, should last year have done honour both to itself and to the great exponent of cellular pathology by awarding the Copley medal to one of the most brilliant, and at the same time most patient, investigators and thinkers of our time. RUDOLF VIRCHOW is not merely the exponent of cellular pathology or the initiator of a philosophical system of medicine, he is a profound thinker, an accurate observer and patient investigator, he has modified, even transformed, our conception of disease, which is no longer merely a thing of humors, nor some entity which, having found its way into the body, there maintains a kind of symbiotic existence, whilst, most important of all, he has urged that whatever may have to do with the biological history of an organism must necessarily have an intimate bearing on all pathological questions relating to that organism. RUDOLF VIRCHOW (coming immediately after JOHANNES MÜLLER, whose work on the intimate structure and form of morbid tumours opened out the possibilities of the application of the microscope to pathology and medicine, and SCHWANN, who had so recently expounded his cell theory of the structure of certain of the animal tissues) at once commenced that study of tissues and cells as a result of which he was able, after long and careful application and discussion, not only to extend the cell theory and to get rid of the spontaneous generation theory—a theory put forward by SCHWANN, BENNETT and other physiologists in support of the dogma that animal cells were formed by a kind of crystallisation or precipitation process from what they described as primitive blastema. Upon VIRCHOW also devolved the task of correcting and extending the inductions drawn by JOHN HUNTER from his own careful and accurate observations, for although HUNTER in point of time came so many years before the blastema theory, which indeed was in great part founded on his observations, he himself was far in advance of those who initiated and upheld it. In the first volume of his *Archiv*, VIRCHOW foreshadows as it were, in his description of medical science and its future, what his own life's work has since proved to be, he says. Let us not deceive ourselves about the condition of medicine, minds are undoubtedly exhausted by the numerous hypothetical systems which again and again are cast aside, only

however, to be replaced by fresh ones. It may be that after a few more invasions this condition of unrest will have gone by, and it will be recognised that only quiet industrious and persevering work, the true work of observation or experiment, possesses lasting value. Pathological physiology will then gradually be developed, not as the production of a few heated brains, but as that of many patient investigators that pathological physiology which is the citadel of scientific medicine, of which pathological anatomy and clinical investigation are merely the outworks. It is this practical but philosophical study of pathology that has carried VIRCHOW'S school so far ahead of the schools of pathology. Pathology is, indeed, he holds, merely a phase of biology, all active life in protoplasm is maintained and manifested as the result of the irritability of that protoplasm, the manifestations varying according to the special differentiation of the cell, just as the manifestations of disease are simply those of cells living under abnormal or irregular conditions. In speaking of VIRCHOW'S school, one must not do him the injustice of ascribing to him the desire to found a school, using that term in its ordinary sense. His is not a school of creeds or beliefs, of dogmas or of unsupported assertions—it is rather, as he said of that of MÜLLER, one of the methods of experimentation, of observation, the pathologist calling in to his aid and utilising freely the results that have been obtained in physiology, chemistry and botany, and similar sciences. He it was who applied to pathology those methods which VESALIUS and HARVEY had applied to anatomy and physiology, he threw overboard all philosophical theories and pinned down himself and his pupils to hard matters of fact, speculation, unless based on a solid foundation, he spurned as unworthy of the consideration of men who have at command the facts obtainable by modern methods of investigation. His whole energies have been devoted to putting pathology and medicine upon such a footing that they may no longer be mere empirical arts, but may take high rank amongst even the more exact of the natural sciences. Whilst accepting all this, however, no man has fought more strongly for the view that pathology must be investigated by pathologists, and that its study involves something more than a knowledge of normal physiology, without which, nevertheless, no pathology worthy of the name can ever be built up, and, whilst accepting it as proved that the morbid changes in organs, tissues and cells are indicated by a study of pathological anatomy, he has always taught most earnestly and persistently that, in order to obtain an exact knowledge of the processes of disease, it is necessary to go back to pathological physiology—nay it might be said pathological biology in the widest sense of the term—so that, although, as in the case of normal anatomy, we must in the first place rely for our exact knowledge on dissection and study of the dead subject, the problems of general or physiological pathology can only be elucidated by having recourse to careful experiment and accurate clinical observation. Anatomy without physiology was looked upon as a science which could only be advanced by the aid of a dissecting knife, but anatomy considered as the study of the material medium through which function and the manifestation of life are made becomes a much more real and interesting if more complicated, study.

It has sometimes been said that VIRCHOW owed his ability

contained in a reservoir at the peripheral extremity of the tube. By this device no index is needed, and having tried the instrument on several occasions we can testify to the



accuracy of its record, but another advantage is claimed for it, which, when physicians get accustomed to its use, will be certain to be appreciated. Thus it can be "set" with very much less shaking than the ordinary clinical thermometer, owing to the reservoir of mercury in the upper end being distinct from the bulb. This permits of the presence of a long column of mercury in the stem whenever the registering column is being shaken back into the bulb. With low readings the registering column must of necessity be short, and if there be no reserve of mercury behind it there can only in that case be a short column to give rise to the centrifugal force which drives it home, which requires much shaking to be effectual. In this instrument, even with very low readings, it is much easier to send the registering column home and with much gentler shaking than is ordinarily needed. It may be added that the reservoir contains exactly enough mercury to fill the stem, so that it is not difficult to determine when enough mercury has been thrown back into the bulb. It may be added that the top of the tube is of smaller dimension, to allow of it being firmly held in the operation of shaking back the column.

HYPOGASTRIC CEINTURE OR UTERINE SUPPORT FOR HORSEWOMEN

THIS consists simply of a cushion somewhat resembling two pads of a hernial truss joined together and placed over the hypogastrium, being retained in position by a couple of belts passing round and crossed over the sacrum and fixed in front with an indiarubber covered strap round each thigh. This contrivance will prove of use to horsewomen who experience uneasiness in the hunting field on taking a leap. By its continuous pressure it steadies the pelvic viscera. It is also valuable in cases of threatened hernia in either sex, as it supports the external abdominal rings. It is made by Mr Huxley, 15 Old Cavendish street, W.

FOUL CISTERNs, CONTAMINATED WELLS, AND INSUFFICIENCY OF PRESSURE

In an able and instructive report recently presented to the St George's Vestry, Southwark, Dr F J Waldo, the medical officer of health for the district, deals with the evils that may arise from the storage of water in cisterns, from the drinking of water from polluted wells, and from the existence of an inconstant and insufficient supply. All three evils evidently exist in the parish alluded to, according to the facts revealed in the report. Commencing operations at the artisans' dwellings in the district, with the assistance of two sanitary inspectors, Dr Waldo found that a large number of the drinking-water cisterns—nearly always placed on the roofs, which are often utilised as drying grounds for clothes—were either incompletely or imperfectly covered. In most cases the cisterns were badly placed, with their tops often within six, four and a half, three, and two and a half feet only from the free vents of the soil pipes. The ventilators were working freely and gave unmistakable evidence of their contents. The water in the cisterns was frequently filthy, containing in some instances offensive decaying and decayed vegetable growth measuring two inches in depth, whilst the walls of the cisterns were covered with black slimy mud one third of an inch in thickness. A bundle of advertising pamphlets, setting forth the anti-septic virtues of a certain mixture containing borax, balls of wood shavings, bricks, stones, pieces of cistern

covers and a live leech were amongst the foreign bodies found in the cisterns. Dr Waldo has found a strong argument during his inspection in favour of the establishment of baths and washhouses in the parish of St George's. He has seen boys with their shoes and socks off and trousers tucked up in close proximity to cisterns, and he has gained evidence of a youth having washed his face and hands with soap in a cistern the water from which was the domestic supply of the unsuspecting tenants below. Drinking-water cisterns are frequently placed in inaccessible places, often above waterclosets and in areas where the water is liable to be contaminated by offensive and injurious emanations. Samples of water taken from the shallow pump wells of the district were submitted to Dr Muter, the public analyst for the district, for analysis. Each and all proved to be highly dangerous to health and largely charged with sewage and other deleterious matter. Eleven surface pump wells that remained in the parish have, with the exception of one, been either closed or safeguarded, the use of the latter having been compulsorily restricted for manufacturing and washing purposes only. Proceedings were taken against two owners who refused to close their wells, and as they appear to be the first prosecutions heard under the Public Health (London) Act they are of interest. In the first case the liberty of the subject was upheld against the sanitary action of the vestry, costs being allowed. The second case was saved by a cross-examination eliciting the fact from the owner that he had been in the habit of using the water for many years past and that he was still alive. More than this, a neighbouring publican had been in the habit of using the water for "mixing down gin." An order was made, however, for the closure of the well during one month, so that in the meantime it could be put into such a condition that in future it might give a pure in place of an impure water—a consummation which, as Dr Waldo adds, owing to the nature of the surroundings, is an impossibility. The report further contains some remarks relative to the insufficiency and inconstancy of the water supply in the districts served by the Southwark and Vauxhall Water Company. The vestry are taking active steps to remedy the evils thus exposed, and it would be well if all other authorities could be induced to conduct a similar inquiry, to be followed by the adoption of equally active measures.

Cisterns, abominable as they are, cannot entirely be done away with, but water intended for drinking purposes should not be allowed to stagnate, and where such is the case the pressure of legislation should be brought to bear upon the companies to compel them to provide a drinking supply direct from the rising main. As Dr Waldo has suggested—a suggestion which has been carried into effect with marked success—a duplicate pipe, conveying the water from the cistern in time of need—as in frost or when repairs are taking place—should, in addition, be provided. It is to be hoped that all evidence gained on a house to house inspection of the metropolitan districts as to the storage, constancy and efficiency of the water-supply—such as that recently conducted by the medical officer of health for St. George's, Southwark—will find a place in the mass of information that is now before the Royal Commission.

MEDICAL MAGISTRATE—The Lord Chancellor has added the name of Mr John Jackson, M R C S, L R C P, Edin., of Somerby, near Oakham, to the roll of Justices of the Peace for the county of Leicester.

UNIVERSITY OF EDINBURGH—On Tuesday last a meeting of the General Council was held to consider the draft ordinances recently issued by the Scottish Universities Commissioners on the financial arrangements of the Universities. Mr Taylor Innes pointed out two faults in the report of the standing committee of the Council with regard to the present system of the professorate—viz., the want of a minimum and the want of a maximum the existence in some cases of classes too large and of emoluments too high. Dr Scott Dalgleish said the medical faculty had been left with its twelve professors as it was fifty years ago. Each professor in the Faculty of Arts received on an average the fees of fifty students, whilst in the Faculty of Medicine each professor received on an average the fees of 150 students. If there were surplus fees in that faculty, they ought, he said, to be applied to the creation of new chairs and to the improvement of the machinery for original research.

duct in the business with a perfectly impartial mind, he had not discovered the least room for suspicion. He was able to say frankly to the House that he did not believe, so far as his opportunity of judging went, that the merits of the Connemara case had anything to do with the action of the Director General of the Army Medical Department." We dwell upon this, however, because it seems to us that a high minded sensitive man, smarting under imputations of a cruel kind that he knew to be entirely false, might, rightly or wrongly, be led to infer that some reasons, of which he knew nothing, existed in the background for what probably seemed to him at the time an arbitrary course on the part of those from whom he would naturally expect sympathy, advice and protection until all the facts could be established one way or the other. It is unnecessary, and would be tedious, to detail at length the subsequent course of events in this case, and unless so stated they would not be easily comprehended. Any errors into which Surgeon Major BRIGGS subsequently fell appear, after all, to have arisen from a want of judgment and proper information as to the position in which he stood. The matter, as far as we can judge, appears to have resolved itself entirely into one of military discipline. The Secretary of State for War having intimated his willingness to reinstate Surgeon Major BRIGGS on his withdrawing and expressing regret for the letter he had written, and that assurance having been given Mr LOCKWOOD withdrew his motion.

It is rumoured, and the rumour gains strength, that the sanitary progress of rural Scotland is being threatened by hindrance from an entirely unexpected quarter. When the Local Government Act was passed in 1889 one of its clauses was to the effect that each county should appoint a medical officer of health and sanitary inspector, neither of whom should be allowed to engage in any other work without the express written consent of the County Council. The clause was an admirable one, and the exception was obviously intended to meet the case of isolated counties like Orkney and Shetland or Bute and Arran, too small to require the whole time of sanitary officials and so situated as to be unable to combine with other counties. Nevertheless, a few other counties did, without any such excuse, propose to escape from threatened sanitation through the loophole left in the section in question. Happily, however, this was in most cases successfully circumvented through the operation of another Act of Parliament. Under the Local Taxation (Customs and Excise) Act the sum of £15,000 per annum was set aside as a contribution to the payment of the salaries of the sanitary officials employed by the Scotch local authorities. The grants from this fund were to be made subject to such regulations as might from time to time be issued by the Secretary for Scotland. Acting under the advice of the Board of Supervision, the Marquis of LOTHIAN, the then Secretary framed regulations which excluded from participation in the grant counties whose sanitary equipment was held to be unsatisfactory, and with such exceptions as already mentioned, it was laid down that counties whose medical officers and inspectors had been engaged to give only a fraction of their time to the work were unsatisfactory as to their arrangements and should have no share in the £15,000.

The regulation was obviously a wise one, and, we have no doubt, had the effect of confirming many councils in their policy of sanitary thoroughness and of directing doubtful counties into a proper course. The sum of £15,000 may not seem large, but neither, unfortunately, are Scotch medical officers' salaries, and the result is that in the year 1892 the properly equipped counties have had recouped to them fully one half not only of the salaries, but also of the travelling expenses of their sanitary officials, whilst the recalcitrant counties have received nothing. It is with dismay, therefore, that we hear that there is now considerable risk of a reversal of this policy and of a frittering away of the money amongst deserving and undeserving counties alike, and, of course, with a fixed amount to operate on, whatever enters the pockets of the latter comes out of the pockets of the former. But the actual amount wasted in this way will be of little consequence compared with the principle involved, and we are quite sure that nothing is further from the purpose of Sir GEORGE TREVELYAN than to take anything in the nature of retrograde sanitary action. The appreciation with which he has received recent deputations on public health questions and the breadth of view which he has manifested regarding the problems put before him indicate how fully alive he is to the sanitary needs of the northern kingdom. We venture to hope therefore that before actually deciding on the course to be pursued he will at least ascertain the views of some of the medical men who are at present members of the House of Commons and several of whom are both Scotch themselves and representatives of Scotch constituencies. So unwise, indeed, would be the step which rumour says is about to be taken that we have no hesitation in prophesying that he will find the skilled opinion which he can so easily consult unanimously opposed to the project. Meanwhile, let us give Sir GEORGE TREVELYAN a single hypothetical illustration of the objections to the system which he is thought to favour. In a county a question may arise as to the alleged insanitary condition of a dairy farm. The premises are to be inspected by a subcommittee, consisting perhaps of only one member of a local authority. He reports favourably. But a medical report is also wanted. It is obtained and is likewise favourable. However, the subcommittee may turn out to be the paid factor of the landlord, to whom the farm belongs and the medical reporter a heavy private medical attendant. Such a favourable report might be perfectly correct and honestly given, but the system is obviously altogether wrong and surely is not one which the Secretary for Scotland should subsidise out of the public funds.

TESTIMONIAL. — A distinguished gathering, assembled on Saturday last at the Winter Gardens Folkestone, to present Dr R. L. Bowles with a testimonial on the occasion of his leaving Folkestone. The presentation consisted of a large silver bowl, a silver tea tray, and a set of embossed silver gilt goblets and claret jug, the whole costing about £300. The Mayor in presenting the testimonial together with an illuminated address signed by several hundreds of subscribers, briefly sketched Dr Bowles' career in Folkestone during the last forty years. Dr Bowles, in reply, expressed his gratification at the presence of such a large number of old friends, and thanked them for the handsome testimonial and the good wishes which accompanied it.

to set forth his cellular theory of pathology to the investigations of earlier biological workers, but it has been well said that "the discoverer of a scientific fact is not he who has divined it, but he who has proved it." Pathologists of to-day might well write these words in letters of gold and keep them constantly before their eyes. VIRCHOW proved the cellular theory. Knowing, as we do, how fundamental to modern pathology is the dictum, "*Omnis cellula e cellula*," it is difficult to conceive of an older system of pathology as being based on anything more solid than theory. The origin of tumours, the alterations in the blood, the process of inflammation, of degeneration, had no foundation on observed facts, we had a pathology of symptoms, but no true pathology—a pathology "of humors and solids," of primitive blastemas and of spontaneous generations, but all vague and unsatisfactory. It was only when VIRCHOW applied the Baconian method to the problems with which pathologists were then dealing and to the enormous store of material that had been collected by pathological anatomists that something like order and definite form could be evolved from the chaos left by the various teachings of the "schools." The ontology of disease had superseded humoral pathology, and it in turn had to give way to the physiology of disease. Cellular pathology still maintains its ground, and all that further investigation has done has been to extend and amplify the importance of cellular pathology as originally advanced by VIRCHOW. From his first works on arteritis and phlebitis to his most recent contributions on "Transformation and Descent" and their relation to disease there is the same idea running through all his writings—the identity of normal and pathological processes, manifested, however, under different conditions. How generous Professor VIRCHOW is to those pioneers of pathology and biology in this country those who read his lecture as given in our columns will understand, and we venture to put into words our distinguished visitor's idea that knowledge belongs to no country and that no one who is engaged in the study of nature and attempting to elucidate her mysteries can be claimed for any one nationality. The Royal Society may well hold that, as it has made Professor VIRCHOW an honorary member, it has put in a claim for a share in the triumph of a man of whom Germany may well be proud. Those who read between the lines in Professor VIRCHOW'S address, and who, if they have not already done so, go through his published work even without attempting to master that of his best pupils, will appreciate the enormous difference in the "spirits" of pathology of 1853 and 1893. To the newer pathology, cellular pathology, as expounded by Professor VIRCHOW, we are indebted in great measure for the wonderful advances that have been made in the treatment of disease, and for the still greater promise that is held out for the future.

THE case of Surgeon Major BRIGGS was very ably and fully brought before the House of Commons by Mr LOCKWOOD on the motion to go into Committee of Supply on the Army Estimates. Mr LOCKWOOD'S notice was to call attention to this officer's case, and to move for a select committee to inquire into the refusal to reinstate him. A long discussion followed, in which Mr CAMPBELL BANNERMAN and Dr FARQUHARSON took part, and which ultimately terminated in Mr LOCKWOOD'S declaring that Surgeon Major BRIGGS was

willing to express regret for a letter he had written and to ask leave to withdraw it. Here, it may be said, in the terms used by our neighbours the French, "the incident closed." But we cannot help expressing great sympathy with Surgeon Major BRIGGS. Most people, too, whilst glad to learn that this officer is to be reinstated, will not regret that publicity has been given to the case. We take our information entirely from the report of the discussion in *The Times*, and simply record the impressions derived from the perusal of that report. Here was a medical officer who had an unblemished record. He had rendered excellent and even distinguished service during his military career, not only in connexion with his profession, but in the field, in various trying expeditions, and his services in these respects had been recognised in despatches. In 1886 he had the very grave misfortune, as it turned out, to be appointed medical officer on the staff of the then Governor of Madras, Lord CONNEMARA. Into all the painful circumstances which led to the lawsuit instituted by Lady CONNEMARA in the Divorce Division of the High Court of Justice there is no need to enter. Let it suffice that Surgeon Major BRIGGS was placed in the most trying position possible and that he acted throughout with a chivalric and fastidious sense of honour. He felt that it was his paramount duty to others, to himself, and to the honour and good repute of the service to which he belonged to shirk no inquiry but to court it, and he must have looked forward with keen anxiety to the trial in a court of law where he could establish, once for all, his entire innocence of gross charges and imputations which involved himself and others. In this he entirely succeeded, and his course of action under the circumstances in which he was placed subsequently met with a highly flattering expression of approval in the House of Commons by the late Secretary for War. But, in order to fulfil a duty which he could not resist and was bound as a gentleman to perform, he had beforehand to make the great sacrifice of resigning his commission rather than go abroad when ordered. And it is at this stage that we fail to appreciate the necessity of his being placed in that position. How was it that he was not directed as to the proper course for him to adopt under the circumstances, or why did he not himself obtain a subpoena or some other legal or official proof, or make an affidavit that his presence in England was, pending the trial, absolutely essential? A request based upon something of this sort—to be allowed to remain in order to appear at the trial—would surely have been held sufficient for the purpose by the military authorities. It seems surprising that, under the circumstances, such a course was not indicated to Surgeon Major BRIGGS by his military superiors if it was necessary for them to be armed with some specific documentary proof of his *bona fides* and of the exact nature of his requirements as to the probable time that his presence in England would be necessary for the termination of the legal proceedings. Mr CAMPBELL BANNERMAN was careful to explain, however, that, as far as he and the War Office were concerned, the Connemara case had nothing to do with the case of Surgeon Major BRIGGS. The War Minister went on to say "Whether the conduct of the Director General of the Army Medical Department was in all respects judicious and proper and regular was another matter, but, having gone into his con-

certainly which is common to most other men. Add to this the fact that every day he lives brings him in contact with much that is anxious and responsible in work, and we need be at no loss to explain why the freedom blended with order which are found on shipboard constitute for him a restorative influence of much value. We admit that there are drawbacks to travel by sea. Its familiar physical disturbances need only be mentioned, its occasional monotony cannot be denied. Its constant subjection to the action of climate, season and weather must now and then prove depressing. Yet withal the amateur sailor, if in fair health, finds in it ample means of recreation. He may not, perhaps be so fortunate as a member of the profession—Dr Fyfe—who lately closed a series of published letters descriptive of a yachting cruise round the world, extending over nearly two years and unmarked by any case of illness or serious injury. For all purposes of the ordinary holiday, however, a much briefer voyage will suffice, and the season is now near at hand when from every considerable port on our shores it will be possible by means of a well appointed passenger steamer service to visit other shores or to circumnavigate our own. The accommodation provided even on the shorter routes is often excellent, though better adapted, perhaps, for travellers of the sterner than of the fairer sex. We feel certain, therefore, that a pleasure trip of the kind indicated will commend itself as the season advances to any of our medical brethren who may choose in this way to combine the enjoyment of well-earned rest with the interest of novelty amid the purest and freshest atmospheric surroundings.

SANITARY REGISTRATION BILL, 1893

THE word "sanitary" is by degrees having attached to it a meaning more limited than heretofore. In recent times we have heard of the 'sanitary arrangements' of a house, as appertaining peculiarly to the waterclosets and drains, an Act of Parliament has adopted the slang and uses the expression "sanitary convenience" in a special sense, the interpretation clause of the Act telling us that this expression includes 'urinals, waterclosets, earth closets, privies, and any similar conveniences.' Then, again, we have the expression 'sanitary engineer' as descriptive of a class of persons who claim to know more about waterclosets, drains and their belongings than other people, now we have a Bill before us which proposes to create "licentiates in sanitary practice," and when the contents of the Bill come to be understood we find that these gentlemen are to be licentiates of the practice of waterclosets and drains. In these days of specialism many people perhaps will see no objection if any architect should think fit to limit his practice to waterclosets and drains nor need we raise any objection to the Institute of British Architects if it desires to do so conferring some special and distinctive title upon any member of that body whose knowledge of waterclosets and drains may in any high degree excel that of his fellows. But we have a strong objection to and do protest against, the principle embodied in the Bill that, provided the waterclosets and drains &c. of a house are constructed in a particular manner, the building is entitled to be certified as in a satisfactory sanitary condition, and, further we protest against the proposal to constitute a large army of so-called licentiates who are to be empowered to give a statutory certificate of the sanitary condition of a house on such insufficient grounds. It is quite obvious that the Bill has been prepared by gentlemen who have been misled by the circumstances we have described, and who in engaging in "sanitary practice in this modern and very limited sense, are entirely oblivious of the fact that they are only touching a few of the conditions of a house which may affect health. The Bill is the outcome of want of knowledge and is bad in principle. If it passed it would create a new class of persons

many of them probably very incompetent, whose certificates would have to be accepted by sanitary authorities no discretion being left to the authorities to determine whether work done under the supervision of these people was or was not adequately carried out, and it would hand over to these licentiates in waterclosets and drains every unfortunate house-owner and require him to satisfy them as to the condition of his house. In writing thus, we are not failing to recognise the importance and indeed the necessity of all house drainage being improved so far as is required to satisfy present requirements, but this, we hold, should be done through the intervention of the recognised sanitary authority, who will act under a larger sense of responsibility than would any individual contemplated in the Bill.

THE ROYAL FAMILY AND THE PROTECTION OF CHILDREN

NOTHING can be more gratifying to all who have at heart the welfare of children in this country than the emphatic manner in which the Society organised for their protection against cruelty has been supported by the Royal Family. The terms of warm and unreserved commendation in which the work hitherto carried on by the Society was described at its recent dinner by his Royal Highness the Duke of York were, we need hardly say, as creditable to the speaker's own feeling and judgment as to the cause of which he was the willing advocate. Several members of the Legislature and many other influential persons have repeatedly spoken to a like purpose, admitting at once the unfortunate necessity for the Society's efforts and the moderation and success with which these have been exerted. We are pleased to note that Her Majesty the Queen, by a double contribution to the Society's exchequer has given the most unmistakable proof of her sympathy with its object and its methods. These facts are such as may well be regarded by all classes of the community as of the happiest omen. They augur well for the continuance of labours the urgent need of which is also sufficiently evident from the measure lately introduced by Sir Richard Webster for amending the Bill for the Protection of Children and from the fact that over 900 cases of undoubted cruelty were during last year brought to light in England alone by the agents of the Society.

SIMULTANEOUS AFFECTION OF THE LACRYMAL AND PAROTID GLANDS

DR. ERNST FUCHS, Professor of Ophthalmology in Vienna, has published an account of a case where disease of the lacrymal glands was associated with disease of the parotid glands. The patient was a man aged sixty one who, after suffering for four months from swollen eyelids noticed that a tumour was forming below the ear. When seen a month later both upper lids were found to be pressed forward by a tumour in the external and upper portion of the orbit, evidently an enlargement of the lacrymal gland. Both parotid glands were also enlarged, forming smooth tumours three or four centimetres in extent, resting on the ascending ramus of the lower jaw and raising the lobule of the ear. None of the tumours showed any signs of inflammation, and there was no pain or tenderness in any of them. Treatment was without avail, and at the end of a year they had slightly increased. A fragment excised from one of the lacrymal glands for examination showed large and small nodules like those in a lipoma and much resembling the lymphoid tissue of the follicles in trachoma. It appeared probable that the tumour had originated from the interstitial connective tissue, as no glandular substance was found. Professor Fuchs has only been able to find three cases in medical literature in which the lacrymal and parotid glands were simultaneously affected. One, reported by Kaltenhoff,

Annotations.

"Ne quid nimis"

PROFESSOR VIRCHOW

PROFESSOR VIRCHOW, whose lecture at the Royal Society on Thursday we have the satisfaction of being able to publish in our present issue, will probably remain with us until the 27th inst. After the delivery of the Croonian lecture he was entertained at a banquet, at which Lord Kelvin presided. During his stay in England our distinguished guest will be the recipient of many honours, amongst which may be enumerated the honorary degrees of Oxford and Cambridge, the former of which will be conferred on the 23rd inst and the latter on the 21st. The council of the Irish Medical Graduates' Association have invited Professor Virchow to accept the honorary membership of that body, and that ceremony will take place to day (Friday). He will be the guest whilst in London of several of the prominent leaders in medicine and literature, amongst whom may be mentioned Sir James Paget, Sir Joseph Lister, and Sir John Lubbock, whilst in Cambridge he will be entertained by Professor Roy, and whilst in Oxford by the Master of Pembroke College and Professor Burdon Sanderson.

THE QUEEN'S VISIT TO FLORENCE

AN Italian correspondent writes "Rarely has Queen Victoria's vernal *villeggiatura* been undertaken in circumstances apparently so auspicious. The city in whose neighbourhood Her Majesty is shortly to sojourn has special attractions for the Queen, over and above those which draw to it perennial pilgrimages from the worlds of literature and art. There it was that many of the brightest, most profitable hours of 'Albert the Good's' early manhood were spent, there it was that he studied music and painting, Italian history, poetry and fine art, that he made excursions into the romantic neighbourhood on horseback or on foot and imbibed the lessons in political development in which the Tuscan Commonwealth, whether as republic or as duchy, abounds. In retracing his steps, Her Majesty, five years ago, enjoyed the pleasing melancholy, so dear to all sympathetic natures which have long passed the 'mezzo del cammin di nostra vita,' whilst equally benefiting by the contemplation of the same artistic *chefs d'œuvre* and by visiting the same scenes made memorable by historical or literary association. The climate, too, of Florence and Fiesole (in which latter parish Her Majesty really resided) was in itself an exhilarating and restorative influence—the pure air, continually refreshed from the neighbouring Apennines being nowhere more enjoyable than in the Villa Palmieri, in which the Queen had fixed her abode. Then, again, the health conditions of city and suburb, exceptionally favourable during her sojourn, made all Her Majesty's movements as free and unrestrained as immunity from disease, epidemic or sporadic, could render them, whilst the demeanour of the Florentines, respectful and unobtrusive, promoted the convenience of their Royal guest in a manner peculiarly gratifying to her in the circumstances of her visit. In all these respects this second sojourn of Her Majesty in Florence will be even more happily ordered than her first—the health of the city and neighbourhood being better than it has been known to be for many years, the water supply having received more effective supervision and the various sanitary conditions of the place put upon a more satisfactory footing. As at present arranged, Queen Victoria will prolong her residence at the Villa Palmieri considerably beyond the duration of her last visit, and will thus have fuller and more favourable opportunity for really enjoying and benefiting

by that most delightful experience—a Tuscan *primavera* or spring tide. As before, or even more vigilantly than before, the Florentine Municipio will exert itself to enhance Her Majesty's convenience throughout the term of her sojourn in every possible way, the lighting and other police regulations between the city and her villa being placed under a surveillance which, truth to tell, the good Florentines are all too unaccustomed. Royal and Imperial visits will also be paid to Her Majesty during her residence at the Villa Palmieri, and a series of entertainments, in which Verdi and Mascagni are expected to take a personal interest, are already in contemplation. Previous disappointments as to the coming of their Royal guest have stimulated the official world of Florence and Tuscany to redoubled efforts towards ensuring success for Her Majesty's approaching visit, and its preparations, already achieved or in course of completion, give promise of results in all respects satisfactory to both visitor and hosts."

HOODED VANS IN LONDON

WE are glad to see that in the House of Commons last week Mr Parker Smith asked the Home Secretary whether he could state the number of accidents caused by hooded vans in London during the year, whether vans in which the driver was entirely surrounded on three sides were permitted in any other city in the country, and whether he would take measures to ensure that proper precautions were insisted on by which, in all vehicles plying the streets, the driver should be able to have a sufficient view at the sides to prevent danger of collision with other vehicles or of running over foot passengers. Mr Asquith replied that, with reference to the first and second paragraphs of the hon. member's question, he was unable to give an answer, but that he was in communication with the Commissioner of Police. With reference to the third paragraph, he stated that the police have no power to enforce regulations requiring the driver of a van to be seated on any particular part of it or that the van should be furnished with windows. It is to be hoped that the result of Mr Asquith's consultation with the Commissioner of Police may lead to some action being taken in this matter. We can see no reason why the law should not require that the drivers of these hooded vans should be so placed as to command an uninterrupted view of the traffic. There would doubtless be a great outcry if the drivers of "hansoms" were permitted to direct their cabs from the interior of the vehicles, yet the position would be less rather than more absurd than that of the drivers of hooded vans, seeing that hansom cabs are invariably provided with windows at the sides. It may, perhaps, be urged that the drivers require protection from bad weather, but we fail to see, if they were compelled to be seated outside their vans, that they would be in any worse plight than the drivers of private carriages, cabs, omnibuses *et id genus omne*.

HOLIDAYS AT SEA

A VARIETY of circumstances combine to invest the holiday spent at sea under ordinarily favourable conditions with a composite charm which is something peculiar in itself, and which must be felt in order to be rightly appreciated. The panoramic survey of surrounding nature, the unsurpassed purity of the atmosphere, the society of agreeable companions, the regularity of daily life, and, finally, the fact that physical rest is compelled whilst access to business is forbidden by the existing natural conditions, unite in forming a total of leisured recreation which requires no fitter prelude than hard work for its enjoyment. For all the reasons above given a week or two so spent should furnish the busy practitioner with an admirably suitable method of relaxation. Interruption and irregularity are at all times characteristic of his calling. Neither in regard to sleep, meals or home life does he enjoy the privilege of

some satisfaction to him to reflect that by giving publicity to the story of his grievance he will have put other readers of THE LANCET on their guard. We cannot ensure that our efforts to exercise such censorship as will exclude from our columns every objectionable advertisement, however seemingly innocent will invariably be successful, but we can assure our readers that we leave no stone unturned to effect this end—indeed there is probably no journal published in which more care is exercised in this respect

THE HEALTH OF MR. GLADSTONE

CONSIDERABLE excitement has been caused by the recent announcement that the Premier was suffering from illness. In view of his advanced age and the great strain to which his work in the House of Commons must necessarily subject him, anxiety is only too likely to be aroused. We are glad therefore, to be able to state that his ailment is simply an ordinary "cold," with slight elevation of temperature and some increased frequency of pulse. It is reassuring, moreover, to add that he has none of the characteristic symptoms of influenza, although that disease has been prevalent in his household.

PREVALENCE OF FEVER

A SLIGHT increase in the number of scarlet fever cases notified was apparent during the week ending Feb. 4th. Rather more than 1000 cases were notified, of which London contributed more than a third, Liverpool, Leicester, Sheffield and West Ham were responsible for most of the rest. Diphtheria also showed a decline or some 40 cases, but London contributed about one half of the total. Next to London, Liverpool had the most cases of enteric fever. The fatality from influenza continues to increase. Last week 41 deaths occurred, the average of the previous three weeks having been 27.

THE INTERNATIONAL MEDICAL CONGRESS

AN Italian correspondent, under date, Rome March 10th, writes. The arrangements for the 'Esposizione Internazionale di Medicina e di Igiene' in connexion with the International Congress are rapidly approaching completion. As already stated, the Roman Town Council has set apart for it the magnificent Palazzo delle Belle Arti (the permanent Fine Art Exhibition) in the Via Nazionale and within reasonable distance of the Policlinico where the Congress will hold its sittings. The Exhibition itself will be open from Sept. 15th to Oct. 15th, and even, if necessary, for some time longer. It will have special annexes devoted to the Red Cross and to the Bacteriological and Hydrological Sections. It will comprise the following classes: 1. Apparatus, fittings and plans of buildings devoted to scientific research or to technical investigations in biology, therapeutics and hygiene. 2. Appliances, instruments and material employed in the various branches of therapeutics. 3. Working material required in the public service—as in *l'assistance publique* and in rescue from fire or drowning. 4. Plans, apparatus and material required for the reclamation of waste lands and the sanitary regulation of cities. 5. Plans, apparatus and other mechanical aids in the sanitation of cities. 6. Plans, models and materials for sanitary works. 7. Apparatus and furniture for sanitary purposes in dwelling houses and in public offices. 8. Material, apparatus and articles useful in personal hygiene. 9. Plans, models, apparatus and institutions for the hygiene of the working man. 10. Books, atlases, photographs and printed documents of recent publications having reference to the sciences of medicine, biology and hygiene. 11. A special class of exhibits in bacteriology and hydrology. 12. A special class of exhibits in connexion with the Italian Red Cross especially with a view to the competition for the prize instituted in 1892. Diplomas and medals will be awarded to the

best exhibitors by the Minister of the Interior and by the Committee of the 'Esposizione.' For the programmes of the Exhibition and all questions requiring explanation recourse must be had to the President of the Exhibition, the Commendatore Professor Luigi Paghani, whose address *ad hoc* is 'Ministero dell'Interno, Roma.'

VACATION COURSE IN BACTERIOLOGY

WE have been asked to state that, by an error the London Post-Graduate Vacation Course was announced to commence in the Bacteriological Laboratory of King's College on April 11th. The class will commence on April 17th, and will be held every morning from 11 A.M. to 1 P.M., except Saturdays until April 28th. This course has been arranged at the request of the committee of the London Post-graduate Course to suit those practitioners who would be unable to be in London for a longer time than a fortnight.

THE PREVALENCE OF SMALL-POX.

ALTHOUGH during the past fortnight there seems to have been a sensible decline in the total number of cases of small-pox in the country, there have been several fresh centres invaded. In the metropolis, indeed, there have been several cases, and the disease seems to be spreading into localities widely separated from one another, indicating several foci of infection. In Essex cases have occurred—all amongst tramps—in no fewer than ten unions. There have also been cases at Kingston in Surrey, and at Hambledon in Hants. The disease still persists in the Yorkshire towns fresh cases having been received into hospital at Leeds, Bradford, Halifax, Normanton, Bingley and Keighley. The last cases notified at Keighley, a very unvaccinated town, have all been in children, and it is significant in this respect to learn that in Leicester, where the disease is not now spreading, the total number of cases has been 134 with 10 deaths, 8 of the fatal cases being unvaccinated children. Cases have occurred in Westmoreland, at Appleby and Kendal, in Cumberland, at Wyke and Carlisle, and still continue to arise in many of the Lancashire towns, but the most noticeable return is that from South Wales, cases having been notified from Swansea, Unstone, Denbigh, Neath, the Rhondda and Cardiff. At the latter place some difficulty has arisen from lack of special isolation accommodation, and cases of typhus fever have had to be sent out of the hospital in order that small pox cases may be received. The authorities have taken energetic measures to promote vaccination and revaccination. The disease is largely disseminated by the tramp class, and gradually all districts of Great Britain are being invaded by it.

SMALL-POX IN SCOTLAND

THE news this week is both bad and good. In Glasgow there have been no less than twenty-four new cases in the week ending March 11th, as compared with ten and eleven in the two previous weeks. They are, moreover, occurring, some of them, in a rather better class of houses than before—in the houses of respectable artisans and not merely of the very lowest amongst the population. The latter have been, as is pointed out by the convener of the Public Health Committee, to a great extent revaccinated at the public cost, whilst the upper classes have been revaccinated privately in large numbers. But in the class between these there has been very little revaccination so far, and it is this class which small pox is now selecting as its victims. In Kirkcaldy we hear of about half a dozen cases, and in Ayrshire there are at least a dozen, most of them at Lugar. A case has occurred in the town of Ayr, the authorities of which had made no provision for small pox, but in the emergency isolated the patient in a wooden building erected some years ago for cholera. In Govan no less than five persons living in

was very similar to the foregoing, but in it the submaxillary glands were also swollen, and after the lapse of a year all the affected glands had nearly regained their normal condition. In a second case, reported by Mikulicz, there was a uniform and symmetrical enlargement of the lacrymal and of all the maxillary glands, as well as of those of the oral mucous membrane. In a third case, reported by Gordon Norris, there was acute inflammatory swelling of both lacrymal glands, followed in a few days by epidemic parotitis. This may be looked upon as mumps of the lacrymal glands. In addition to these there are cases of a different character, where swelling of the lacrymal glands coexists with enlargement of the lymphatic glands. Three of these cases have been found in literature. Other classes of cases are also referred to by Dr Fuchs (1) Acute or chronic swelling of both lacrymal glands only, (2) acute swelling of the lacrymal and parotid glands in true mumps, (3) chronic swelling of the lacrymal and the various salivary glands from lymphoma or lympho sarcoma, (4) chronic swelling of the lacrymal glands and of the lymphatic glands of the head and neck.

PROSECUTION OF A MEDICAL MAN UNDER THE INFECTIOUS DISEASES NOTIFICATION ACT

AT Worcester, on the 13th inst., Mr G W Till was summoned on a charge of neglecting to notify a case of small pox to the medical officer of health. The prosecution was conducted by Mr T Clark, who stated that the patient, an inmate of a lodging house, was first visited by Mr Till on Dec 23rd, but that he did not notify it until the 26th. After evidence from Dr Crowe, who saw the man in hospital, from the sanitary inspector, from a fellow lodger with the patient, who first notified the case, and from Mr Gostling, acting medical officer of health, it was urged by Mr Matthews in an able speech for the defence that the case was one which Mr Till was justified in regarding at first as chicken pox. Medical witnesses were called to testify to the difficulties in differentiating these two affections in modified cases of small pox, and the Bench unanimously dismissed the case, not allowing costs. It is quite clear that Mr Till did not wilfully withhold notification of the case, the true nature of which he did not at first recognise. It is very desirable that the authorities should endeavour in such cases to discriminate between wilful suppression of the facts and mistaken interpretation of them. It was never intended to prosecute medical men for making a wrong diagnosis, and there is no one who has seen anything of modified small pox who will not admit that there are cases in which, apart from collateral circumstances, an accurate diagnosis is a matter of the greatest doubt and difficulty.

THE "DAILY NURSE"

ONE section of the population which in the emergency of illness is liable to suffer in a peculiar degree from the want of efficient nursing is that commonly known as the lower middle class. Above the status of those who habitually seek attendance at the hospitals, yet at the same time too poor to retain the constant services of a trained nurse, and perhaps isolated in lodgings, there are many persons in this condition of life for whom, when ill, any further aid than the casual services of a friend or a landlady is practically impossible. It is for the relief of such as these that the office of the "daily nurse" was recently evolved from the general nursing system. We are indebted to Miss Catherine Wood, who has taken a leading part in providing the sick with this new and acceptable form of service, for an explanation of her position. It is almost precisely the same as that of the district nurse amongst the poor, except that it entails the payment of moderate fees. The daily nurse visits the patient daily once or oftener, attends to his needs, leaves written instructions, if required, for his friends and a report for the

visiting practitioner. Should her services be required for a longer period, she remains at the bedside during the day or night, returning to the nursing home to sleep. She is thus an inmate of the house of sickness, where space is often very limited, no longer than is absolutely needful for the performance of her duties. In the event of a fatal issue she is likewise available for the last attentions to the dead. The scheme, as above described, has been in operation for about a year, and we understand that it has during this period attained to an encouraging measure of success. It certainly bids fair to satisfy a long felt want, and we fully expect that under judicious management it will prove a great and real boon alike to the sick and to the frequently overworked practitioner whose labours it comes to aid.

LOCAL CONTROL OVER DRAINAGE

IN the issue of the *Builder* for Nov 5th, 1892, appeared a letter from Mr Arthur Baker, F.R.L.B.A., dealing with local control over drainage and sanitary work. Like so many other people who have thought about the subject, Mr Baker takes exception to the present method by which the drainage and sanitation of a district are controlled, and believes that, as now exercised, the whole matter resolves itself into a question of the amount of energy and knowledge possessed by the medical officer of health and local surveyor. We cannot contradict Mr Baker in his contention that the subject upon which he writes is one needing reform, but we do not follow him in his statement that the work of the medical officer of health and surveyor "lies rather in detecting than remedying defects." Surely it is laid down explicitly enough in the list of duties attaching to these offices that both detection and remedy shall be the work of these officials. We quite agree with Mr Baker that the enforcement of a uniform code of model by laws in districts adopting similar methods of sanitation is desirable, and that it would effectually put a stop to the variety of opinions now so freely expressed and carried out as to what should constitute good house drainage. The way by which this goal should be attained requires further deliberation, meanwhile the freer dispersion of a knowledge of hygiene amongst the public, whether by technical education or by the establishment of museums of sanitary appliances, would accelerate the advent of the required reform.

A DELUSIVE ADVERTISEMENT

IT does not often happen that we have to admit any limitation to the efficiency or usefulness of *THE LANCET* as a channel of inter communication, but we have some reason to think that its advertisement columns are not particularly well suited to the requirements of the matrimonial agent, and if any member of that fraternity should be tempted to make, or rather to repeat, the experiment, we would apply to him Mr Punch's advice to those about to marry, and say—don't. So far as an individual matrimonial agent is concerned, he has probably reached that conclusion for himself as the result of a recent experiment which can hardly have proved satisfactory from his point of view. This gentleman caused to be inserted in our columns an advertisement of a medical practice for disposal, which turned out, when answered by one of our readers, to be a bait with which the matrimonial agent was angling for a possible husband in the interest of a young widow described by him in glowing terms. The glowing terms, we hope, do nothing but bare justice to the widow's graces and accomplishments! The description, however, did not impress one of our readers, who has turned over the correspondence to us with indignant comments of his own, and, if the lady be wise, she will probably now adopt some less adventurous plan of bringing her personal recommendations under the notice of possible admirers. With our correspondent's annoyance we heartily sympathise, but we hope that it is

be carried on in French, and it has been agreed that they shall be kept absolutely secret. Dr Schiff of Vienna has made a proposal to the Sanitary Conference for utilising military medical officers and disciplined sanitary corps and the sick transport organisation, together with the military hospitals and infirmaries, supplemented by such temporary shelters and refuges as could be easily built at slight cost by the State in case of the outbreak of an epidemic.

As regards the progress of cholera at the present time it appears that, according to the latest intelligence, the disease continues to prevail to some extent in many of the provinces of Russia and that it has reappeared in Moscow, where cases have occurred in one of the convict prisons of that city. Active preparations are being made, it is stated, throughout Russia, and especially in the province of Moscow, to cope with the returning epidemic.

From Rome we learn that a workman who arrived last week from France at Entraque, near Cuneo had died of what was believed to be cholera from the symptoms during life and the subsequent post-mortem appearances, and that the mother in law of this victim had been since attacked with similar symptoms and had died—presumably from cholera.

CHOLERA IN FRANCE

(FROM OUR SPECIAL CORRESPONDENT)

A VISIT TO BOULOGNE.

Anticipatory Precautions.—A Mayor as a Director.—Infected Fishing Boats.—Comparative Immunity of Streets with Sewers.—The Spread of Cholera in the outlying District.

The municipality of Boulogne-sur-Mer did not wait till cholera had broken out in the neighbouring village of Portel to take the necessary precautions. On Aug. 29th several official committees met and adopted various measures. The sewers were examined, and an investigation was held as to the condition of the different sources of water supply. Applications were made to secure a proper disinfecting stove, and instructions were given to the Chief of the Police with regard to the occasional use of well water in the making of bread and the manufacture of aerated waters. Fortunately for the town of Boulogne, the mayor Dr Aigre, is a distinguished medical practitioner and thoroughly appreciates the importance of good sanitation. He urged the police to apply with the greatest severity all the regulations relating to public health. On Aug. 30th a proclamation was posted throughout the town requesting sailors and fishermen to avoid contact with Ostend, Antwerp and other neighbouring ports where cholera was known to prevail. Orders were given not to expose for sale unripe or over ripe fruit, and to carefully collect every day all death certificates so as to promptly take precautions should any suspicious case occur. Various heaps of manure were removed, sewers disinfected and a number of householders ordered to clean their back yards, their closets &c. Samples of the different sources of drinking water were taken for the purposes of bacteriological analysis. Instructions were issued forbidding the distribution for drinking purposes of any other than the town water supply. A few days later the supply of water from the spring La Prevoyante was suppressed. Various neglected cesspools were hastily emptied and cleaned. All these measures were taken at the end of August and during the first days of September, but at Portel nothing had been done and there cholera began on Sept. 17th and spread with fatal rapidity. This village, inhabited almost exclusively by fishermen, is as I have already explained, three miles to the south west of Boulogne. Four times a day omnibuses go backwards and forwards between the two places. The Portel fishermen come to Boulogne to embark in their boats and their wives come to help to unload the fish, and their daughters to work in the pen manufactures. The entire road from the port through the Capicure side of Boulogne on to Portel, is traversed by persons going from the one place to the other. To reduce this intercourse as much as possible, the Boulogne municipality commenced by suppressing the omnibus service. Then a circular was issued by the Boulogne municipality urging the pen manufacturers not to employ women coming from Portel—at least, for the time being. This un-

doubtedly was a most unjustifiable and somewhat cruel measure to take. Had it been acted upon it certainly would have tended to increase the prevalence of cholera. One of the reasons why cholera spread so rapidly at Portel was the poverty of the population. To stop the women working in the factories would have increased this poverty. It is true that the outbreak of cholera in Boulogne would have caused a general exodus of visitors, and hotel and lodging house keepers would not have let their rooms but the latter are in a better position to support a temporary loss than are the very poor inhabitants of Portel. The lodging-house keepers of Boulogne would not have starved, and, from the sanitary point of view, it was more important not to lessen the financial resources of the much poorer people of Portel.

It was on Sept. 24th that the first death from cholera occurred at Boulogne. The victim was a man of intemperate habits, who lived in the Capicure district and on the road to Portel. As soon as Dr Aigre heard of the case he hastened to the spot. Without waiting for assistance, he at once carried down into the street everything he could find in the dead man's room and made a bonfire with the things justly deeming this to be the most certain means of disinfection. He then proceeded to paste slips of paper over the sides of the window &c. and to prepare the room for fumigation. It was late in the afternoon, and when Dr Aigre had almost completed this work, that a police agent arrived to help him. Dr Aigre was thus able to give the first practical lesson in the art of disinfection and to set a good example as to the necessity of not losing a moment. His energy on this occasion was contagious. It is not every day that one is able to contemplate the picture of the mayor of an important town carrying out dirty bedding, stacks of furniture and other objects from the house of a drunkard who has died from cholera and setting fire to the heap. After that the disinfecting service was promptly and properly organised, but nothing further happened for six days. At the end of that time a fishing boat entered the port with two of the crew on board very ill. The crew numbered nineteen in all, and were far out at sea when some amongst them were seized with violent cramps and vomiting. One of the crew was an inhabitant of Portel. The skipper a powerful man aged thirty-two did what he could to relieve the sufferers, but finding that his efforts were of no avail, he left the fishing grounds and set sail to return to Boulogne. On the way back the skipper himself was seized with cramps, nevertheless, the responsibility that weighed upon him kept him to his post. The sea was rough and the wind contrary. He was drenched from head to foot, but in spite of cramps and diarrhoea he continued in command of the vessel. For two days the crew battled against adverse winds and sickness. When this boat reached Boulogne the authorities acted with extraordinary prudence and energy. The entire crew were marched off to the hospital guarded by gendarmes so that they should not enter any house or communicate with anyone on the way. Two out of the crew were then in an advanced stage of the disease. At the hospital in the course of three days four more fell ill, and out of these six patients I believe four died, including the skipper. As for the other members of the crew they were kept in an observation ward of the hospital by the mere force of persuasion. As they were in perfect health there was no reason why they should be detained, beyond the fear that they should fall ill on reaching home and there spread the epidemic. These excessive precautions however alarmed the fishing population. The crew of the next fishing boat that came into the port of Boulogne with a case of cholera on board refused to go to the observation ward of the hospital. They maintained that they could not afford to be detained some eight days in idleness, wasting their time in the hospital just to see if perchance one or more amongst them should fall ill. As there is no law to compel anyone to undergo this detention, the patient alone was taken to the hospital and the other fishermen went to their homes in the unhealthy overcrowded and badly-drained fishermen's quarter. From that moment and up to the end of December new cases of cholera occurred nearly every day in Boulogne.

Early in October a centre of epidemic became manifest in the two small streets—the Rue de la Redoute and the Rue St. Pol. The map accompanying this article illustrates very well the following description of the progress of cholera in and around Boulogne and Portel. It shows that in these two streets there were altogether thirteen deaths out of twenty-one cases. The first case was that of a man of intemperate habits, living a 22 Rue St. Pol. A

the house from which the first case was taken have been infected. All are in hospital. Cases are reported also from Stranraer, Dundee, Edinburgh and Leith. In the Canongate Hospital there were seventeen cases a few days ago. On the West Highland Railway, where revaccination has been thoroughly carried out, the disease appears to be almost stamped out. On Loch Lomond in Dumbartonshire, indeed, no case has occurred for about a month, and the hospital is undergoing cleansing and disinfecting previously to closure. This is fortunate from a commercial as well as from a sanitary point of view, as with the advance of spring the letting of summer residences begins and the prosperity of the whole locality depends so much on the success of the tourist season that had small pox continued to prevail it would have resulted in great loss alike to railway and steamboat companies and to the hotels and lodging houses on the loch.

DEATH FROM MISADVENTURE

At Diglis, Worcester, an inquest was held by the city coroner (Mr Hulme) relative to the death of Sarah Ann Stead, who had taken an acetonate liniment prescribed for her father in place of her own medicine. The coroner asked Mr Royle, surgeon, if it would not be a good thing that poisons should be put in blue ribbed, specially prepared bottles, to which the witness replied that no doubt it would, but that the law of the land would have to be altered to insist on members of the Friendly Societies Association, of which the witness was surgeon, bringing such bottles.

FOREIGN UNIVERSITY INTELLIGENCE

Innsbruck.—A legacy of 120,000 florins has been left to the University by an eccentric miser, an inhabitant of the city, who has just committed suicide by running himself through the body with a sword.

Tours (Medical School).—M Barnsby, Professor of Natural History, has been appointed Director in place of M Danner, who has been appointed Honorary Director.

DEATHS OF EMINENT FOREIGN MEDICAL MEN

THE deaths of the following distinguished members of the medical profession abroad have been announced.—Dr Damien Leuquin, a much respected Liège practitioner, who, in consideration of valuable services rendered in the time of the cholera epidemic in 1866 as chief medical officer of the Liège division of the Belgian railways and as a member of the Provincial Medical Commission, had been decorated by the Belgian Government and created an Officier de l'Académie by the French Republic. His age was fifty three.—Dr Ferdinand Joseph Belot, hon secretary of the Belgian Provincial Medical Commission and Knight of the Order of Leopold, at the age of eighty four.

A GENERAL MEETING of the British Medical Temperance Association will be held at the London Temperance Hospital, Hampstead road, to-day (Friday). A review of the medical practice in the wards of the London Temperance Hospital will be given by the President, Dr B W Richardson, F R S.

THE Senatus Academicus of the University of Aberdeen has conferred the degree of LL.D on Dr Crum Brown, Professor of Chemistry in the University of Edinburgh, and Sir Frederic Bateman, M D, Senior Physician to the Norfolk and Norwich Hospital.

DR F LAGRANGE has been sent by the French Government to Italy and Germany in order to report upon the various forms of hygienic treatment which are carried out at different sanatoria.

MR HUGH SMITH, F R C S, has been appointed Surgeon to the Hospital Convalescent Home at Parkwood, Swanley, which has been recently erected and is to be opened in May.

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carried on in French, and it has been agreed that they shall be kept absolutely secret. Dr Schiff of Vienna has made a proposal to the Sanitary Conference for utilising military medical officers and disciplined sanitary corps and the sick transport organisation, together with the military hospitals and infirmaries, supplemented by such temporary shelters and refuges as could be easily built at slight cost by the State in case of the outbreak of an epidemic.

As regards the progress of cholera at the present time it appears that, according to the latest intelligence, the disease continues to prevail to some extent in many of the provinces of Russia and that it has reappeared in Moscow, where cases have occurred in one of the convict prisons of that city. Active preparations are being made, it is stated, throughout Persia, and especially in the province of Moscow, to cope with the returning epidemic.

From Rome we learn that a workman who arrived last week from France at Entracque, near Cuneo had died of what was believed to be cholera from the symptoms during life and the subsequent post-mortem appearances and that the mother in law of this victim had been since attacked with similar symptoms and had died—presumably from cholera.

CHOLERA IN FRANCE

(FROM OUR SPECIAL CORRESPONDENT.)

A VISIT TO BOULOGNE.

A Hospitalary Peculiarities.—A Mayor as a Disinfectant.—Infected Sleeping Boxes.—Comparative Immunity of Streets with Sewers.—The Spread of Cholera in the outlying Districts.

THE municipality of Boulogne-sur-Mer did not wait till cholera had broken out in the neighbouring village of Portel to take the necessary precautions. On Aug. 29th several official committees met and adopted various measures. The sewers were examined, and an investigation was held as to the condition of the different sources of water supply. Applications were made to secure a proper disinfecting stove, and instructions were given to the Chief of the Police with regard to the occasional use of well water in the making of bread and the manufacture of aerated waters. Fortunately for the town of Boulogne, the mayor, Dr Aigre, is a distinguished medical practitioner and thoroughly appreciates the importance of good sanitation. He urged the police to apply with the greatest severity all the regulations relating to public health. On Aug. 30th a proclamation was posted throughout the town requesting sailors and fishermen to avoid contact with Ostend, Antwerp and other neighbouring ports where cholera was known to prevail. Orders were given not to expose for sale unripe or over-ripe fruit, and to carefully collect every day all death certificates so as to promptly take precautions should any suspicious case occur. Various heaps of manure were removed, sewers disinfected and a number of householders ordered to clean their back yards, their closets &c. Samples of the different sources of drinking water were taken for the purposes of bacteriological analysis. Instructions were issued forbidding the distribution for drinking purposes of any other than the town water supply. A few days later the supply of water from the spring La Prevoyante was suppressed. Various neglected cesspools were hastily emptied and cleaned. All these measures were taken at the end of August and during the first days of September, but at Portel nothing had been done and there cholera began on Sept. 17th and spread with fatal rapidity. This village, inhabited almost exclusively by fishermen, is as I have already explained, three miles to the south-west of Boulogne. Four times a day omnibuses go backwards and forwards between the two places. The Portel fishermen come to Boulogne to embark in their boats, their wives come to help to unload the fish, and their daughters to work in the pen manufacturers. The entire road from the port through the Capricure side of Boulogne on to Portel, is traversed by persons going from the one place to the other. To reduce this intercourse as much as possible, the Boulogne municipality commenced by suppressing the omnibus service. Then a circular was issued by the Boulogne municipality urging the pen manufacturers not to employ women coming from Portel—at least, for the time being. Thus un-

doubtedly was a most unjustifiable and somewhat cruel measure to take. Had it been acted upon, it certainly would have tended to increase the prevalence of cholera. One of the reasons why cholera spread so rapidly at Portel was the poverty of the population. To stop the women working in the factories would have increased this poverty. It is true that the outbreak of cholera in Boulogne would have caused a general exodus of visitors and hotel and lodging house keepers would not have let their rooms, but the latter are in a better position to support a temporary loss than are the very poor inhabitants of Portel. The lodging-house keepers of Boulogne would not have starved, and, from the sanitary point of view, it was more important not to lessen the financial resources of the much poorer people of Portel.

It was on Sept. 24th that the first death from cholera occurred at Boulogne. The victim was a man of intemperate habits who lived in the Capricure district and on the road to Portel. As soon as Dr Aigre heard of the case he hastened to the spot. Without waiting for assistance, he at once carried down into the street everything he could find in the dead man's room and made a bonfire with the things, justly deeming this to be the most certain means of disinfection. He then proceeded to paste slips of paper over the sides of the window &c. and to prepare the room for fumigation. It was late in the afternoon, and when Dr Aigre had almost completed this work, that a police agent arrived to help him. Dr Aigre was thus able to give the first practical lesson in the art of disinfection and to set a good example as to the necessity of not losing a moment. His energy on this occasion was contagious. It is not every day that one is able to contemplate the picture of the mayor of an important town carrying out dirty bedding, sticks of furniture and other objects from the house of a drunkard who has died from cholera and setting fire to the heap. After that the disinfecting service was promptly and properly organised, but nothing further happened for six days. At the end of that time a fishing boat entered the port with two of the crew on board very ill. The crew numbered nineteen in all, and were far out at sea when some amongst them were seized with violent cramps and vomiting. One of the crew was an inhabitant of Portel. The skipper, a powerful man aged thirty-two, did what he could to relieve the sufferers, but finding that his efforts were of no avail, he left the fishing grounds and set sail to return to Boulogne. On the way back the skipper himself was seized with cramps, nevertheless, the responsibility that weighed upon him kept him to his post. The sea was rough and the wind contrary. He was drenched from head to foot, but in spite of cramps and diarrhoea he continued in command of the vessel. For two days the crew battled against adverse winds and sickness. When this boat reached Boulogne the authorities acted with extraordinary prudence and energy. The entire crew were marched off to the hospital guarded by gendarmes, so that they should not enter any house or communicate with anyone on the way. Two out of the crew were then in an advanced stage of the disease. At the hospital in the course of three days four more fell ill, and out of these six patients I believe four died, including the skipper. As for the other members of the crew, they were kept in an observation ward of the hospital by the mere force of persuasion. As they were in perfect health there was no reason why they should be detained, beyond the fear that they should fall ill on reaching home and there spread the epidemic. These excessive precautions, however, alarmed the fishing population. The crew of the next fishing boat that came into the port of Boulogne with a case of cholera on board refused to go to the observation ward of the hospital. They maintained that they could not afford to be detained some eight days in idleness, wasting their time in the hospital just to see if perchance one or more amongst them should fall ill. As there is no law to compel anyone to undergo this detention, the patient alone was taken to the hospital and the other fishermen went to their homes in the unhealthy, overcrowded and badly-drained fishermen's quarter. From that moment and up to the end of December new cases of cholera occurred nearly every day in Boulogne.

Early in October a centre of epidemic became manifest in the two small streets the Rue de la Redoute and the Rue St. Pol. The map accompanying this article illustrates very well the following description of the progress of cholera in and around Boulogne and Portel. It shows that in these two streets there were altogether thirteen deaths out of twenty-one cases. The first case was that of a man of intemperate habits, living at 22 Rue St. Pol. A

the house from which the first case was taken have been infected. All are in hospital. Cases are reported also from Stranraer, Dundee, Edinburgh and Leith. In the Canongate Hospital there were seventeen cases a few days ago. On the West Highland Railway, where revaccination has been thoroughly carried out, the disease appears to be almost stamped out. On Loch Lomond in Dumbartonshire, indeed, no case has occurred for about a month, and the hospital is undergoing cleansing and disinfecting previously to closure. This is fortunate from a commercial as well as from a sanitary point of view, as with the advance of spring the letting of summer residences begins and the prosperity of the whole locality depends so much on the success of the tourist season that had small pox continued to prevail it would have resulted in great loss alike to railway and steamboat companies and to the hotels and lodging houses on the loch.

DEATH FROM MISADVENTURE

At Diglis, Worcester, an inquest was held by the city coroner (Mr Hulme) relative to the death of Sarah Ann Stead, who had taken an acetonite liniment prescribed for her father in place of her own medicine. The coroner asked Mr Royle, surgeon, if it would not be a good thing that poisons should be put in blue ribbed, specially prepared bottles, to which the witness replied that no doubt it would, but that the law of the land would have to be altered to insist on members of the Friendly Societies Association, of which the witness was surgeon, bringing such bottles.

FOREIGN UNIVERSITY INTELLIGENCE

Innsbruck.—A legacy of 120,000 florins has been left to the University by an eccentric miser, an inhabitant of the city, who has just committed suicide by running himself through the body with a sword.

Tours (Medical School).—M Barnsby, Professor of Natural History, has been appointed Director in place of M Druner, who has been appointed Honorary Director.

DEATHS OF EMINENT FOREIGN MEDICAL MEN

THE deaths of the following distinguished members of the medical profession abroad have been announced.—Dr Damien Leurquin, a much respected Liège practitioner, who, in consideration of valuable services rendered in the time of the cholera epidemic in 1866 as chief medical officer of the Liège division of the Belgian railways and as a member of the Provincial Medical Commission, had been decorated by the Belgian Government and created an *Officier de l'Académie* by the French Republic. His age was fifty three.—Dr Ferdinand Joseph Belot, hon. secretary of the Belgian Provincial Medical Commission and Knight of the Order of Leopold, at the age of eighty four.

A GENERAL MEETING of the British Medical Temperance Association will be held at the London Temperance Hospital, Hampstead road, to-day (Friday). A review of the medical practice in the wards of the London Temperance Hospital will be given by the President, Dr B W Richardson, F.R.S.

THE *Senatus Academicus* of the University of Aberdeen has conferred the degree of LL.D on Dr Crum Brown, Professor of Chemistry in the University of Edinburgh, and Sir Frederic Bateman, M.D., Senior Physician to the Norfolk and Norwich Hospital.

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woman and a young girl inhabiting the same house also died. Then some relatives living close by at 36, Rue de la Redoute, likewise succumbed to cholera. All these persons were poor, some of them drunkards, and they lived in very insanitary houses. These two streets are on the summit of a steep hill, they are fairly wide and well swept by the wind, they are not so well cared for by the scavengers. I noticed heaps of filth in the Rue St. Pol, which some inhabitants declared had not been removed for fifteen days. No 22 of this street I found to be a very wretched and filthy habitation in spite of all the recent disinfection. There was fecal matter in the entrance passage of the house, and in a small back yard was a broken-down mudden closet, which the occupant of the house declared had not been emptied since cholera occurred. There was no lid to the seat, no pan underneath, and the contents of the midden were exposed to the open air. The staircase was small and dirty, the whole surroundings were grimy and desolate, and, to make matters worse, there were cellar dwellings. Leaking drains pass under the houses and the street gutter receives all manner of dirt and is badly paved, so that the subsoil can be easily contaminated. Nevertheless I have seen many worse slums and there is plenty of fresh air on the crest of the hill where these two streets are situated. It is interesting to note that in the Rue St. Pol are the five 'houses of tolerance' which Boulogne possesses, and that the women of these houses, though living in the very heart of the cholera district, were all absolutely free from sickness. Within a stone's throw is the fishermen's district where most of the other cases of cholera occurred. Thus these women were not only in the worst street, but in the worst neighbourhood so far as cholera was concerned, yet they all escaped. The fact is that, in spite of the wretched, degraded lives they lead, they enjoy material advantages which the general population does not possess. They have each a separate room to sleep in, so there is no overcrowding. They have ample food and no anxiety for the morrow's subsistence. Then they must, of necessity, be kept scrupulously clean. This may explain why they were not affected by the cholera that surrounded them.

The sick were conveyed to the hospital in a special carriage, and, whenever possible, the families were removed for a few days to an observation ward. The houses in the interval were disinfected, the passages and corridors washed, the closets drenched with a solution of sulphate of iron, and as many objects as possible were burnt, whilst the more valuable things were taken to the disinfecting stove. The rooms were disinfected with sulphur fumes where the mercurial spray could not be readily applied. Altogether seventy-eight cases are officially recognised to have occurred in the town of Boulogne, resulting in thirty deaths. The first death occurred on Sept. 24th, and the last on Dec. 31st 1892. It is important to note that from Oct. 17th to Nov. 1st there were only one death and one new case, and it so happened that during all this period it rained, I believe, every day. When the rain ceased new cases and more deaths occurred. Altogether this experience speaks well for Boulogne. Though so close a neighbour to Portel and exposed to infection brought by travellers coming from all parts as well as by the inhabitants of Portel there were but thirty deaths from cholera out of a population of 45,205, so that whilst at only three miles distance the mortality from cholera was equal to 14.26 per 1000 of the population, it only amounted to 0.65 per 1000 at Boulogne. I cannot help thinking that this immense difference is due to the fact that, from the very first, energetic measures were taken to cope with the danger at Boulogne, whilst at Portel the greatest negligence was displayed, but more important, far, than the measures which may be taken on the spur of the moment is the fact that Boulogne has a good water supply and is drained by numerous sewers. At Portel as I have already explained, there are no sewers and the water taken from surface wells is exposed and contaminated from the streets where all the filth is thrown out. There are various water supplies at Boulogne, but the principal supply comes from Tingry, a village situated on a hill at a distance inland of eleven miles. From this source 300 litres per day, per inhabitant, are obtained, and it is brought to Boulogne under pressure in an iron pipe. At Boulogne however there is a reservoir that is not all that could be desired, and orders have been given to have it cleaned, and the walls scraped, flames passed over their surfaces and then tarred. This useful precaution will be taken before the commencement of the next summer season. As the Tingry water has a pressure of only forty-eight metres, it does not

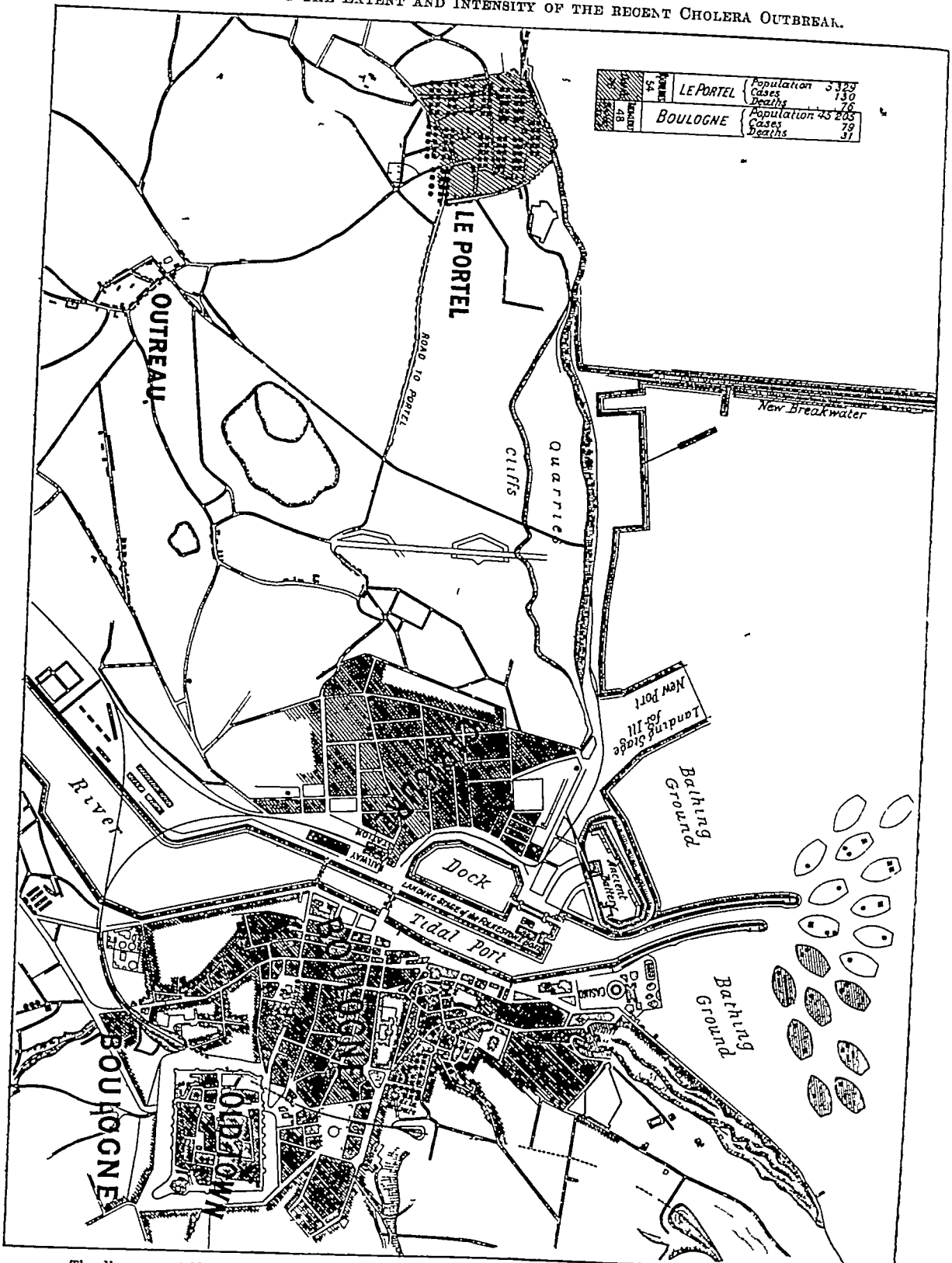
reach the higher portions of the town, and notably the Rue St. Pol and Rue de la Redoute. Together with two-thirds of the fishermen's quarter these streets receive the water of the Ordre. There is also a private company which distributes water in various houses. Then there is a spring known as the Bon Père, which is so near to the surface of the soil as to be looked upon with suspicion. There are two farms close by, and on the fields human manure is thrown, so that it was feared one or more of these supplies would be contaminated. When Boulogne was menaced by cholera some of these smaller supplies of water were suppressed, samples taken, and arrangements made to have them examined. They were all found to be good though the water of the Bon Père spring contained the bacterium coli, the leptothrix &c. Nevertheless, the fact remains that it is the part of Boulogne that does not receive the Tingry water which suffered most from cholera, but there is another very important consideration. There are no sewers in the Rue St. Pol and the Rue de la Redoute, or in the greater part of the fishermen's quarter. Boulogne has more sewers than any of the other French provincial towns that I have visited during the course of my inquiries into the cholera epidemic. More than half the total length of the streets has sewers, including all the important streets. On looking at the map I find that twenty-two cases of cholera occurred in streets where there are sewers and forty-eight in streets where there are no sewers. These figures apply to Boulogne as a whole, but if one takes the Capricure side of the river only the result is the reverse, for here I find nine cases in streets where there are sewers and six where there are none. The sewers seem to have acted beneficially, yet as sewers they are far from perfect and still have their outfalls into the port. Sand, of which a plentiful supply is scattered in the streets, collects in the bottoms of the sewers. It mixes with the heavy deposits and is not readily flushed out. Thus a nuisance arises, and it was a wise precaution to have the sewers specially cleaned when the advent of cholera was feared, indeed, it must be admitted that the administration of the town of Boulogne has displayed a very enlightened spirit and seems bent on dealing with the health question in a broad and scientific manner. Personally I have every reason to be grateful for the efficient and courteous assistance given me in my investigations. No attempt was made at concealment, a map showing where the cases of cholera had occurred and the number of boats that came into port with cholera cases on board was placed at my disposal, whilst the town engineer took the trouble to trace, street by street, the course followed by the sewers and the various water supplies. I regret to be compelled to, at least, defer criticism on the drainage and general sanitary conditions of Boulogne, but I have perhaps said enough to show that the town has gone through a great ordeal with credit and that there is reason to believe that it enjoys a certain degree of immunity from the danger with which it was menaced. The fact that Boulogne has so far escaped from a serious epidemic because its sanitary condition was preferable to that, for instance, of Portel, but that it nevertheless suffered somewhat—namely just in those parts where its sanitary armour was weakest—is surely a clear indication that measures of general sanitary reform, already in part executed, should be pressed forward and promptly terminated.

From Portel the suburb of Boulogne called Outran was contaminated, and 22 cases and 9 deaths occurred there. At St. Etienne, in a district known as "Le Purgatoire," there were 21 cases and 8 deaths. Then there was 1 death at Ique 1 at Coudette of a person who had arrived from St. Etienne, and there were 17 deaths at Halinghen out of a population of only 300 persons. This caused great alarm at Boulogne because Halinghen is near the source of the Boulogne water-supply at Tingry. Fortunately Tingry is on the opposite slope of the hill and there were no cases of cholera on that side. At Neufchatel there were 4 or 5 deaths and at Darne some 20 cases and 4 deaths are reported. These, however, scarcely seem correct figures and doubtless for all these small villages considerable corrections will be ultimately made to the figures actually given. The cholera also spread from the Boulogne *arrondissement* to that of Montreuil and to Etaples. Parenty, Hubert and several other places.

MEDICAL MAGISTRATE—Mr William Bradley, M.R.C.S., has been placed on the Commission of the Peace for the borough of Preston.

MAP OF BOULOGNE AND VICINITY

ILLUSTRATING THE EXTENT AND INTENSITY OF THE RECENT CHOLERA OUTBREAK.



The diagrams outside the pier represent boats. The unshaded sketches are those boats which contain fishermen who have come from Le Portel the shaded boats contain fishermen from other ports. Throughout the map cholera cases are represented by dots or squares. The squares indicate the cases which have proved fatal the dots cases which have recovered. The map illustrates the aggregation of cases at two spots—viz., at Le Portel and at points inhabited chiefly by fishermen residing in Boulogne. Single cases are sparsely distributed over the intervening area.

office on Jan. 11th, 1893, and were received back by the press on Feb. 1st. The report is now ready, but the Government of India are under an engagement to the National Leprosy Association not to publish it here until it can appear simultaneously in England.

'It will thus be evident that the Government of India are not responsible for the delays which have occurred in the several stages of preparing and printing the report, and that under the circumstances under which the Commission was constituted these delays were unavoidable.'

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD

York Rural Sanitary District—Mr T W Thompson has made an exhaustive report to the Local Government Board upon the general sanitary condition of the York rural sanitary district. This district is an extensive one and includes part of each of the three Ridings of Yorkshire. It consists of forty seven contributory places, all of which were inspected by Mr Thompson in the course of his inquiry. The conditions revealed by the report are such as to require the serious and immediate attention of the York rural sanitary authority. We read of cases of excessive overcrowding, water supplies derived from shallow, dry stined, improperly covered and badly situated wells, of sewers imperfectly flushed and ventilated, discharging their crude sewage into rivers and streams, and of midden privies so constructed as not to prevent the percolation of their contents into the soil. The sanitary condition of each of the forty seven villages is fully treated of in the report, but we have not space to notice them in detail. The sanitary authority, apparently as far back as 1876, obtained by laws for part of their district, but, as the report points out, these were framed prior to the issue of the Model By laws, and are thus, to a large extent, obsolete. In the specific recommendations which are found at the end of the report Mr Thompson, in discussing the shallow wells referred to, states that "merely to close wells of this kind and to require the provision of others that are not likely to differ from them in character is often but to put the owner to useless expense without benefitting the tenant." This sentiment we entirely endorse, and it seems to us that it would be well if some steps were taken to bring about a system of registration of well-sinkers, who should be properly educated and qualified for the work they have to perform. In a postscript to the report the sanitary authority are warned that "the prospect of cholera places upon them the imperative duty of availing themselves to the utmost of the months which will elapse before the advent of the warm weather, for the purpose of removing from their district the many unwholesome conditions which have so far been allowed to go unremedied. Should they omit to do this, they will be incurring a responsibility the gravity of which it would be difficult to exaggerate." We hope the report will be widely circulated and read through out the district to which it refers.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Torquay Urban District—Mr Karkeek, who raises some interesting points in his report, in referring to the dangers of cholera which threatened our shores last year observes that inasmuch as there was some doubt as to which ports were to be regarded as infected, he visited every foreign vessel that entered Torquay waters. Among these there were twenty five fishing boats belonging to Isigny and Cherbourg which had been driven into Torquay under stress of weather having made the passage in from thirty six to forty eight hours. The risk to which we are thus exposed is obvious. We notice in this connexion that at the meeting of port sanitary authorities held recently at the Mansion House it was resolved that power should be obtained to require all vessels, including fishing boats which have been in communication with infected or suspected ports to hoist a distinguishing signal on arrival.

No doubt a provision such as this would be of considerable value if it could be relied upon and properly carried out. It seems to us, however, that, with regard to the fishing boat difficulty, it is placing a discretionary power in the hands of a class of men whose ideas of a "suspected" port would differ widely. We believe we are right in saying that there is an order of the Commissioner of Customs in force making it incumbent on any vessel or fishing smack arriving at a British port from a foreign one to hoist her national signal, whether by day or night. It would seem that, if this order be properly insisted upon, we have already in force a precaution likely to be more effectual than that proposed by the conference. It would of course be necessary to further insist that all fishing boats arriving from abroad should stop at the boarding station and be there duly examined by the Customs' officer. In discussing the question of notification, Mr Karkeek relates that the local boards of Torquay, St. Mary Church, Paignton, Totnes and Ashburton united in an attempt to persuade the Newton rural sanitary authority to adopt the Notification Act. These efforts were, however, unavailing. The general and zymotic death rates of the district under consideration were 14.4 and 0.62 per 1000 respectively.

Newton Abbot Rural District—The death rate in this district was 15.81 per 1000 and the zymotic death rate 0.33. Infantile mortality was 84 per 1000 births. Influenza, we are told, "literally raged" during the spring and was primarily accountable for 38 deaths. An epidemic of scarlet fever occurred in May at the village of Broadhempstone and about 50 children were attacked. Notification does not seem to be in force in this district, and Mr Harvey appears not to regard the Act with favour. A number of cases of typhoid fever in Torquay seem to have been traced to a case of the same disease which occurred at a dairy in the Newton rural district. The report does not, however, state what steps were taken to control the distribution of the milk. In treating of the precautions against cholera, Mr Harvey tells us that he endeavoured to persuade the four sanitary authorities—apparently those of Newton, Dawlish and Teignmouth urban, and Newton rural—to combine for the purpose of erecting a cholera hospital. We do not know exactly in what position it was proposed to erect this, but it seems to us that some of the districts in question are too far apart to make such a provision desirable, and this is apparently the view the authorities took of the proposal. It is necessary to bear in mind that the collapse in cholera is, as a rule, so great that those suffering from it are quite unable to withstand the exhaustion produced by a long journey in an ambulance.

VITAL STATISTICS

HEALTH OF ENGLISH TOWNS.

In thirty three of the largest English towns 6838 births and 3875 deaths were registered during the week ending March 11th. The annual rate of mortality in these towns, which had increased in the preceding three weeks from 19.2 to 20.8 per 1000, declined again last week to 19.6. In London the rate was 19.1 per 1000, while it averaged 19.9 in the thirty two provincial towns. The lowest rates in these towns were 11.7 in Burnley, 13.9 in Swansea, 14.7 in Blackburn, and 15.0 in Derby, the highest rates were 22.8 in Manchester, 24.1 in Preston, 24.5 in Norwich, 25.3 in Bolton, and 27.6 in Plymouth. The 3875 deaths included 350 which were referred to the principal zymotic diseases, against numbers increasing from 351 to 398 in the preceding five weeks, of these, 96 resulted from measles, 81 from whooping cough, 57 from diphtheria, 41 from scarlet fever, 40 from diarrhoea, 24 from "fever" (principally enteric) and 11 from small pox. No fatal case of any of these diseases occurred last week in Burnley, in the other towns they caused the lowest death rates in Birkenhead, Wolverhampton, West Ham and Birmingham, and the highest rates in Leicester, Plymouth, Leeds, Salford and Bolton. The greatest mortality from measles occurred in Salford, Gateshead, Plymouth, Hull, Newcastle upon Tyne, Huddersfield, Leeds and Bolton, from scarlet fever in Swansea, and from whooping cough in Norwich, Bolton, Salford and Leicester. The mortality from "fever" showed no marked excess in any of the large towns. The 57 deaths from diphtheria included 38 in London, 5 in Cardiff and 4 in Manchester. Six fatal cases of small pox were registered in London, and 1 each in Croydon, Nottingham, Leeds, Sheffield and Sunderland, 203 cases of this

THE LANCET AND THE OATHS ACT, 1888

IN view of efforts that are apparently being made in certain quarters to claim the credit of the abolition of the practice of "kissing the book" we feel bound in justice to ourselves and our readers to give a *resume* of what has appeared in THE LANCET before and since the passing of the Oaths Act in 1888. Starting from the first, we published a short annotation in our issue of Oct. 17th, 1885, entitled "A New Objection to taking Oaths." In this we referred to the action of Mr Stratham, a surgeon then practising in Middlesbrough, who, when summoned to give evidence in a case of drunkenness, objected to swear on the Testament, not for the ordinary reason, but on account of the risk of infection. The objection astounded the magistrates, who, guided by their clerk, ruled that it was not a conscientious objection within the meaning of the Act. The witness at length swore under protest, but, as we remarked at the time, "It must be allowed that there is something in the objection." In the following week (Oct. 24th, 1885) the subject was noticed in the letter of one of our provincial correspondents, who dealt with it at some length under the heading "Medical Witnesses and the Administration of Oaths." He pointed out that, in addition to the risk of infection, kissing the book was open to grave objections, details of which he gave, suggesting the substitution for this of the Scotch mode of taking the oath with uplifted hand, and the repetition by the witness of the words, as being more solemn as well as more cleanly. Subsequently (March 13th, 1886) we published a letter from Dr Harkness of Derby, and in the same volume (May 1st, 8th and 15th) other letters from various correspondents under the heading, "Kissing the Book." Dr Harkness objected to kiss the book in the Divorce Court a few days previously to the appearance of his letter in THE LANCET, giving as his reason the fact that the same Testament had been recently handled and kissed by two notorious prostitutes. After some demur he, at the suggestion of the late Mr Justice Butt, kissed the open page under protest that it still involved handling an unclean thing. He also alluded to what had appeared in THE LANCET. Further suggestions were made by other correspondents and the subject dropped until March 24th, 1888, when we published an annotation on "The Oaths Bill." In this it was suggested that, as it was proposed to allow those who had no religious belief to affirm instead of taking an oath, the opportunity should be taken to permit those who preferred to be sworn with the uplifted hand, as in Scotland, to be so sworn and to dispense in such cases with the kissing of the book. On April 21st and Aug. 25th following we published respectively a letter and an annotation, both of which emphasised this suggestion. On Dec. 24th in the same year (1888) the Oaths Bill received the Queen's consent and nominally became law, though practically it has not become law yet to some magistrates and coroners, metropolitan and provincial. It will now be seen by our readers how very curiously coincident is Section 5, which we repeat: "If any person to whom an oath is administered desires to swear with uplifted hand, in the form and manner in which an oath is usually administered in Scotland, he shall be permitted so to do, and the oath shall be administered to him in such form and manner without further question." In spite of this remarkable coincidence we have never implied that it was owing to what had appeared in THE LANCET that this section was introduced. We have authority for saying that the gentleman (then a member of the House of Commons) who introduced this section had seen the letter and annotations just referred to and intended to have made use of them had there been any discussion, but there was none. The Act with this memorable section was passed for reasons given at great length in an article in *The Solicitors' Journal* of March 4th. It was passed on grounds legal and religious, not medical. Unaware of the passing of the Act and of its fifth section, we returned to the charge in a leading article published in THE LANCET of July 19th 1890, entitled "Oath Taking in Courts of Law." In this we reiterated all that had previously appeared in our columns, and urged the superiority of the Scotch over the English oath. We continued to refer to the subject, as one deserving legislation, on Feb. 7th, 1891 and on Jan. 16th 1892, in annotations headed "Oath Administration." Eventually (THE LANCET, Jan. 23rd, 1892) we received a letter from a correspondent, "L," calling our attention to the Act which had been passed three years before, and quoting

Section 5 in full. After seeing and verifying this we reproduced it in an annotation on Jan. 30th, 1892. On Nov. 26th following, we alluded to the action taken by Dr Gordon Hogg, then recently elected coroner for West Middlesex, to whom will always attach the credit of making this more safe and cleanly form of oath better known to jurors and witnesses. We suggested that Section 5 should be printed and posted on the walls of all courts for the benefit of jurors, witnesses, and other persons likely to be sworn, though we did not add, as it appears we might and ought to have done, for the benefit also of those whose duty it would be to administer the oath. Finally, on Dec. 17th, 1892, we again dealt with the matter in a leading article entitled "Oath Administration: Kissing the Book & the Uplifted Hand." In this we urged medical witnesses to set a good example and to show that they had the courage of their opinions, we also indicated the legal difficulties, which have since been completely solved by the articles in *The Solicitors' Journal* of Feb. 11th of this year and reproduced in THE LANCET of Feb. 18th. On Dec. 24th, 1892, we published a note from a correspondent giving a very practical illustration of the more solemn character of the Scotch oath. During the whole of the period we have traversed, from 1885 to within the last few weeks, we have fought the question single handed. We do not claim, and have never claimed, to have caused the introduction into this country of the Scotch oath, but we do claim to have rescued this section of an Act of Parliament from obscurity and, in the persons of various members of our profession, to have pushed it vigorously into the daylight, notwithstanding the opposition of several legal coroners. In conclusion, we would remind any of our readers who may be called upon to take an oath that they are under no legal obligation whatever to kiss a Bible or Testament, whether it be clean or dirty, unless they wish to do so. If they prefer to swear with uplifted hand they should express a desire to this effect and decline to answer any question.

REPORT OF THE LEPROSY COMMISSION

"Calcutta, Feb. 22nd, 1893.

"SIRS—I have thought it desirable to furnish the press with this communiqué. I shall be much obliged if you also will give it a place in THE LANCET.—Faithfully yours,

"W. R. RICE,

"Surgeon General with the Government of India."

"Adverting to a paragraph which appeared in THE LANCET of Jan. 28th last commenting on the delay in issuing the report of the Leprosy Commission, it should be stated that, although much of the report was written by the Commissioners in India in 1891 before they separated, chapter iii., dealing with the geographical distribution of the disease, its incidence on various castes and sections of the community and the question whether it is on the increase or not, could not be completed until the Commissioners were supplied with certain statistics of the census of 1891. These census statistics were not available before the spring of 1892.

"This delay was enhanced owing to the fact that the three Commissioners nominated from England were obliged, under their agreement with the National Leprosy Association, to leave India within a year of their arrival, whilst much of the report was either not written at all or in an incomplete condition. The difficulty in communication between them and the fourth Commissioner nominated in India was thus intensified. It was not until Aug. 27th 1892, that the final proof of the complete report was received in India by the member of the Commission residing in this country. It was on him that the duty devolved of preparing an index and table of contents. This was done without delay. The maps and diagrams with which the report is illustrated were sent without delay to the Surveyor General's office to be printed, and those required for the larger demy 8vo edition, of which 300 copies have been printed, were not supplied to the press before Dec. 14th, 1892.

"Meanwhile, at the request of the honorary secretary of the National Leprosy Fund, it had been decided to print a cheaper or royal 4to edition for general circulation. The more expensive edition of 300 copies was completed on Jan. 20th, 1893. Then the whole matter had to be overruled for the smaller edition, and the diagrams had also to be recast. These latter were sent to the Surveyor General &

MONTHLY ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON—FEBRUARY, 1893.
(*Specially compiled for THE LANCET*)

Sanitary areas	Estimated population in the middle of 1932.	NOTIFIED CASES OF INFECTIOUS DISEASE.										DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.										Deaths of infants under one year to 1000 births.				
		Small pox	Scarlet fever	Diphtheria +	Typhus fever	Enteric fever	Other common fevers.	Puerperal fever	Erysipelas.	Cholera	Total.	Annual rate per 1000 persons living.	Small pox.	Measles.	Scarlet fever.	Diphtheria +	Whooping cough.	Typhus fever.	Enteric fever.	Other continued fever.	Dysentæa.		Total.	Annual rate per 1000 persons living.	Deaths from all causes.	Death rate per 1000 living.
LONDON	4,395,561	158	1557	744	1	175	15	30	512	1	3193	9.7	7	63	94	211	161	—	29	1	64	680	1.9	6330	19.2	121
West Districts																										
Paddington	129,277	—	33	21	—	—	—	8	13	—	0	7.0	1	—	—	0	1	—	—	—	1	12	1.3	160	17.3	95
Kensington	167,035	5	97	25	—	5	1	—	13	—	15	8.2	—	—	—	2	2	—	—	—	1	10	0.8	184	14.4	110
Islington	109,674	—	21	20	—	4	—	—	16	—	77	7.7	—	—	—	2	2	—	—	—	1	7	0.7	130	15.1	137
Hampton	116,075	1	32	0	—	10	—	—	31	—	53	7.3	1	2	4	3	3	—	1	—	3	18	2.3	140	18.6	161
Fulham	69,114	—	35	24	—	6	—	—	8	—	75	10.0	—	—	—	5	0	—	—	—	17	0	1.0	143	10.0	104
Chelsea	76,625	—	22	8	—	2	—	—	4	—	36	6.2	—	—	—	5	—	—	—	—	1	1	0.2	87	10.7	83
St. George Hanover square	54,701	—	13	0	—	—	—	—	5	—	23	0.7	—	—	—	1	—	—	—	—	—	1	0.2	68	23.3	140
Westminster	52,673	—	11	3	—	—	—	—	1	—	10	8.7	—	—	—	1	—	—	—	—	—	2	1.1	52	17.6	37
St. James Westminster																										
North Districts.																										
Maylebone	139,540	0	80	14	—	3	1	—	10	—	81	7.0	1	—	0	1	4	—	—	1	2	15	1.4	230	21.1	96
Hampton	73,910	—	24	15	—	—	—	—	6	—	44	7.8	—	—	—	0	—	—	—	—	0	0	1.1	70	12.3	80
St. Pancras	231,125	1	82	61	—	8	—	—	46	—	109	10.0	1	3	0	53	6	—	2	—	0	10	2.0	310	19.4	128
Islington	328,048	10	115	50	—	14	1	1	30	—	227	9.0	1	3	0	17	14	—	4	—	4	30	1.9	411	18.0	123
Hackney	240,177	7	113	54	—	7	1	1	10	—	201	10.9	1	3	0	17	11	—	1	—	—	48	2.3	323	17.8	108
Central Districts.																										
St. Giles	39,611	5	11	3	—	2	—	—	0	—	27	0.1	—	—	1	—	1	—	—	—	—	2	0.7	72	24.1	30
St. Martin in the Fields	15,911	—	0	1	—	—	—	—	—	—	7	0.0	—	—	—	—	—	—	—	—	—	1	0.9	10	15.0	31
Strand	23,568	1	13	2	—	—	—	—	—	—	10	8.9	—	—	—	1	1	—	—	—	—	6	2.3	69	32.2	91
Holborn	23,640	2	20	8	—	3	—	—	5	—	16	12.8	—	—	—	3	1	—	—	—	3	3	1.3	64	25.0	100
Clerkenwell	65,103	1	25	7	0	2	—	—	7	—	15	9.0	—	—	—	1	7	—	1	—	—	14	2.8	110	23.0	171
St. Luke	41,476	3	27	0	—	4	—	—	0	—	46	14.6	—	—	—	3	2	—	—	—	8	2.5	95	20.0	140	
City of London	32,383	1	8	0	—	—	—	—	1	—	10	7.0	—	—	—	—	1	—	—	—	1	1	0.4	61	23.0	140
East Districts																										
Rotherhithe	123,425	3	63	22	—	5	—	—	13	—	97	10.2	—	0	4	7	0	—	1	—	1	55	2.0	200	23.1	120
Bethnal Green	120,036	2	82	39	—	4	—	1	32	—	111	11.2	—	0	1	8	3	—	—	—	2	15	1.5	223	22.4	114
Whitechapel	76,163	10	43	10	—	4	—	—	11	—	85	14.7	—	1	1	3	1	—	—	—	2	12	2.1	135	23.4	102
St. George-in-the-Fields	45,182	17	14	12	—	4	—	—	6	—	67	10.4	—	1	2	13	3	—	1	—	4	20	0.8	101	20.1	150
Lincolns	67,880	7	55	21	—	7	—	—	31	—	94	21.4	—	3	1	4	3	—	1	—	14	14	2.5	108	21.5	80
Mile End Old Town	163,009	1	47	23	—	12	—	—	37	—	93	11.1	—	3	1	0	4	—	—	—	4	21	2.5	173	20.0	101
Poplar	163,870	18	70	35	—	13	—	—	20	—	107	15.2	—	1	5	10	6	—	—	—	4	55	1.9	263	10.5	115
South Districts																										
St. Xavier Southwark	20,323	—	11	4	—	2	—	—	1	—	18	8.7	—	—	—	2	3	—	1	—	1	9	4.4	50	23.7	113
St. George Southwark	60,083	4	14	0	—	3	—	—	4	—	24	7.4	—	—	—	2	3	—	—	—	1	7	1.5	60	20.0	110
Newington	117,430	28	23	23	—	8	—	—	13	—	97	7.4	—	—	2	11	0	—	1	—	1	50	2.3	103	21.4	101
St. Olave Southwark	13,801	7	1	12	—	—	—	—	2	—	11	11.1	—	—	4	0	3	—	—	—	1	13	1.0	27	97.4	131
Bermondsey	84,244	1	45	8	—	5	—	—	10	—	51	7.0	—	—	4	0	3	—	—	—	2	12	1.0	122	19.0	97
Laburnum	30,701	2	8	2	—	—	—	—	6	—	22	7.2	—	—	—	0	1	—	—	—	7	7	2.3	67	22.0	130
Wandsworth	280,557	87	47	47	—	10	—	—	25	—	118	8.3	—	3	0	17	13	—	2	—	4	48	2.0	441	20.5	141
Latimer	100,053	1	108	32	—	8	—	—	25	—	175	14.2	—	4	1	5	10	—	4	—	0	30	2.0	210	17.5	165
Wandsworth	163,379	1	47	24	—	15	—	—	84	—	124	0.6	—	1	1	3	0	—	1	—	4	10	1.5	182	14.1	120
Chislehurst	54,837	22	54	24	—	14	—	—	22	—	137	7.2	—	3	1	4	7	—	4	—	5	28	2.4	237	17.8	117
Greenwell	173,340	10	57	21	—	3	—	—	21	—	112	5.4	—	4	1	7	10	—	1	—	2	32	2.4	233	10.4	130
Leamington (excluding Penge)	70,593	2	20	0	—	4	—	—	0	—	61	8.7	—	1	1	3	2	—	1	—	0	6	1.0	77	10.4	130
Woolwich	41,704	1	0	—	—	1	—	—	6	—	10	6.0	—	—	—	—	—	—	—	—	1	1	0.3	50	17.5	80
Plumstead	84,192	1	37	14	—	1	—	—	12	—	64	8.0	—	—	3	8	1	—	—	—	—	21	1.1	113	16.0	74
Port of London																										

* Including 60 notified cases of membranous croup

† Including deaths from membranous croup

disease were under treatment in the Metropolitan Asylum Hospitals and 8 in the Highgate Small pox Hospital on Saturday last. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week were 2147, against 2402, 2293, and 2210 on the preceding three Saturdays, 195 new cases were admitted during the week, against 217, 178 and 203 in the previous three weeks. The deaths referred to diseases of the respiratory organs in London, which had been 427 and 385 in the preceding two weeks, further declined to 351 last week, and were 172 below the corrected average. The causes of 69, or 1.8 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Cardiff, Leicester, Oldham, Sunderland, and in eight other smaller towns, the largest proportions of uncertified deaths were registered in West Ham, Birmingham, Liverpool and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 20.4 and 23.2 per 1000, in the preceding two weeks, declined again to 22.3 during the week ending March 11th, but exceeded by 2.7 per 1000 the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 11.6 in Greenock and 13.8 in Edinburgh to 25.5 in Glasgow and 28.5 in Dundee. The 627 deaths in these towns included 49 which were referred to measles, 17 to whooping cough, 10 to diarrhoea, 7 to diphtheria, 6 to scarlet fever, 5 to "fever" and 1 to small pox. In all, 95 deaths resulted from these principal zymotic diseases, against 89 and 91 in the preceding two weeks. These 95 deaths were equal to an annual rate of 3.4 per 1000, which exceeded by 1.6 the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of measles, which had been 42 and 53 in the preceding two weeks, declined again to 49 last week, of which 19 occurred in Glasgow and 19 in Dundee. The 17 deaths referred to whooping cough exceeded by 2 the number in the previous week, and included 13 in Glasgow. The fatal cases of diphtheria, which had been 10 and 9 in the preceding two weeks, further declined to 7 last week, of which 5 occurred in Glasgow. The 6 deaths from scarlet fever exceeded by 3 the number in the previous week, and included 2 in Glasgow, 2 in Edinburgh and 2 in Leith. Of the 5 fatal cases of "fever" 2 were recorded in Glasgow and 2 in Leith. The deaths referred to diseases of the respiratory organs in these towns, which had been 135 and 171 in the preceding two weeks, declined again last week to 142, and were 12 below the number recorded in the corresponding week of last year. The causes of 39, or more than 6 per cent., of the deaths in the eight towns last week were not certified.

HEALTH OF DUBLIN

The death rate in Dublin, which had been 27.4 and 27.7 per 1000 in the preceding two weeks, declined again to 25.2 during the week ending March 11th. During the first ten weeks of the current quarter the death rate in the city averaged 28.5 per 1000, the rate for the same period being 22.5 in London and 21.4 in Edinburgh. The 169 deaths in Dublin during the week under notice showed a decline of 17 from the number in the preceding week, and included 6 which were referred to different forms of "fever," 1 to measles, 1 to scarlet fever, 1 to diphtheria, and not one either to small pox or diarrhoea. In all, 10 deaths resulted from these principal zymotic diseases, equal to an annual rate of 1.5 per 1000, the zymotic death rate during the same period being 1.7 in London and 1.0 in Edinburgh. The deaths referred to different forms of "fever," which had been 2 and 6 in the preceding two weeks, were again 6 last week. The fatal case of measles, of scarlet fever, and of diphtheria respectively, were the first recorded for several weeks from these diseases. The 169 deaths registered in Dublin last week included 18 of infants under one year of age and 32 of persons aged upwards of sixty years, the deaths both of infants and of elderly persons showed a marked decline from those recorded in recent weeks. Five inquest cases and 4 deaths from violence were registered, and 67, or more than a third, of the deaths occurred in public institutions. The causes of 12, or more than 7 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF LONDON DURING FEBRUARY, 1893.

In the accompanying table will be found summarised complete statistics relating to sickness and mortality during the month of February in each of the forty-one sanitary districts of London. With regard to the notified cases of infectious disease in the metropolis during last month, it appears that the number of persons reported to be suffering from one or other of the nine diseases in the accompanying table was equal to 9.7 per 1000 of the population, estimated at 4,305,551 persons in the middle of this year. Owing principally to the decreasing prevalence of scarlet fever in London this rate showed a slight further decline from those recorded in the preceding four months, which had fallen from 17.9 to 9.8 per 1000. Amongst the various sanitary districts the rates last month were considerably below the average in Fulham, St. George Hanover square, Westminster, St. Martin in the Fields, City of London, Rotherhithe, and Woolwich, whilst they showed the largest excess in Holborn, St. Luke, Bethnal Green, Whitechapel, St. George-in-the-East, Limehouse, Poplar, and Battersea. The prevalence of small pox in London showed a further marked increase during February, 158 cases being notified during the month, against numbers rising from 3 to 81 in the preceding five months, of these 158 cases, 22 belonged to Camberwell, 18 to Poplar, 17 to St. George in the East, 10 to Islington, 10 to Whitechapel, 10 to Greenwich, 9 to Marylebone, 7 to Hackney, 7 to Limehouse, 5 to Kensington and 5 to St. Giles sanitary districts. The Metropolitan Asylum Hospitals contained 152 small pox patients at the end of February, against 6, 12, 39, and 60 at the end of the preceding four months, the weekly admissions averaged 38, against 5, 10, and 20 in the preceding three months. The prevalence of scarlet fever in London during February showed a slight further decline from that recorded in recent months, this disease was proportionally most prevalent in Hackney, Strand, Holborn, St. Luke, Whitechapel, Limehouse, Poplar, St. Olave Southwark, and Battersea sanitary districts. The Metropolitan Asylum Hospitals contained 2204 scarlet fever patients at the end of February, against numbers declining from 3843 to 2613 at the end of the preceding four months, the weekly admissions averaged 214, against 429, 363, 254, and 223 in the previous four months. Diphtheria showed increased prevalence during the month under notice, amongst the various sanitary districts this disease showed the highest proportional prevalence in Hammersmith, Chelsea, Hackney, City of London, Bethnal Green, St. George-in-the-East, and Poplar. There were 278 cases of diphtheria under treatment in the Metropolitan Asylum Hospitals at the end of February, against 255, 268 and 268 at the end of the preceding three months, the weekly admissions averaged 58, against 48, 53 and 49 in the previous three months. Enteric fever was proportionally most prevalent during February in Chelsea, St. Luke, Limehouse, Rotherhithe, and Wandsworth sanitary districts. The Metropolitan Asylum Hospitals contained 63 enteric fever patients at the end of February, against numbers declining from 124 to 84 at the end of the preceding four months, the weekly admissions averaged 10, against 12 in each of the preceding two months. Erysipelas showed the highest proportional prevalence during the month under notice in Hammersmith, St. Pancras, Bethnal Green, Limehouse, Battersea, and Wandsworth sanitary districts. Five cases of puerperal fever were notified during February in Hammersmith, 3 in Paddington, and 3 in Camberwell sanitary districts.

The mortality statistics in the accompanying table relate to the deaths of persons actually belonging to the various metropolitan sanitary districts, the deaths occurring in the institutions of London having been distributed amongst the various sanitary districts in which the patients had previously resided. The distribution of these deaths, and especially of those resulting from zymotic diseases, affords the most trustworthy data that can be secured upon which to calculate reliable rates of mortality. During the four weeks ending on Saturday, Feb. 25th, the deaths of 6330 persons belonging to London were registered, equal to an annual rate of 19.2 per 1000, against 19.5 and 26.7 in the preceding two months. The lowest death rates during February in the various sanitary districts were 12.3 in Hampstead, 13.1 in Lewisham (excluding Penze), 14.1 in Wandsworth, 14.4 in Kensington, 15.0 in St. Martin in the Fields, 15.1 in Hammersmith, and 15.6 in Plumstead, in the other sanitary districts the rates ranged upwards to 24.5 in Limehouse, 25.6 in Holborn, 27.4 in St. Olave Southwark, 28.7 in St. Saviour Southwark, 29.1 in

tablet to the memory of the late Surgeon Major R. Keeth, A.M.S., in the Garrison Church, Netley

ARMY COOKING

The new system of army cooking, to which we have frequently referred appears to have excited a good deal of attention not only in this country but abroad, and the present War Minister made the subject one of the features of his speech in introducing his Army Estimates. The French army have sent over to this country some experienced men to inquire into the system of cooking adopted in our army and to inspect the school of cookery. The provision of a sufficient supply of well-cooked food is not only a matter of common requirement and common sense, but it is the first step in practical hygiene. A hungry man is always a discontented man, and occasionally a drunkard. The trite saying that an army marches on its belly is a true one. As regards work, more cannot be got out of a man than is put into him, and a good commissariat is consequently of primary importance—especially in war. It is satisfactory to learn that our soldiers at home are better fed now than they have probably ever been before. The stock pot practically speaking, seems to be the pivot of the new system of cooking at Aldershot and elsewhere.

THE DEPRECIATED RUPEE AND THE CIVIL AND MILITARY SERVICES IN INDIA.

We need not apologise for returning to a subject which has reduced the incomes of several thousands of Europeans engaged in the service of the Government of India by forty per cent. and even threatens to result in the virtual pauperisation of the European services of that country. The Viceroy of India has recognised that the Indian Government cannot ask its public servants to tolerate for an indefinite period the distress borne with so much self command for some time past. Lord Roberts the late Commander in chief in India, and the highest officials there have also recognised the hardship which has been brought about by the large decrease in incomes through the fall in the gold value of the rupee. It is a mistake, moreover to suppose that the lowering of the rate of exchange only affects those who have to send money home for their families, it has innumerable ramifications in other directions. We have been furnished with a copy of a published statement setting forth the evils attributable to the shrinkage of income that has been going on since 1872 and more precipitately since 1886 which, if not soon dealt with, must gravely affect the efficiency of our English administration in India. To quote one, and not by any means the most striking concrete example from the number of those cited in this published statement. It is that of a surgeon-colonel of the Indian Medical Service. This gentleman entered the service in the year 1866, when the rupee stood at 2s. Since the rupee began to decline he calculates his loss of income as aggregating over 25 000 rupees on his home remittances alone. The loss has been so great that, as he declares in a memorial to the Government 'he has barely the pay of a subaltern to live on, though he has done twenty five years service in India, and has risen to the higher ranks.' He has been entitled for some years past to furlough, but it has been impossible for him to avail himself of it." He adds 'that he has nothing to complain of in the way of promotion or appointments—simply a large family to support and educate at home.' It must be remembered that what might be regarded as luxuries in England are necessities in an Indian climate, that all European stores and articles have to be paid for in English money and that the cost of living in India has greatly increased of late years. Amongst those who can afford to avail themselves of the privilege of furlough to England—which is occasionally absolutely necessary for the maintenance of health—many are nowadays compelled to take second-class passages who never did so before.

ST GEORGE'S BARRACKS AS A RECRUIT DEPOT

We are glad to notice that Mr Arnold Forster called the attention of the House of Commons to St. George's Barracks in much the same terms that we employed when animadverting on their condition some time ago, and that, further he indicated a similar remedy to that which we then pointed out. St. George's Barracks are the London centre of recruiting and Mr Arnold Forster said that the place was in a condition which made it necessary that the men who entered the army should leave their self respect behind them, and he trusted that the Secretary of State for War would consider whether something could not be done to have a barrack for recruits in one of the

leading streets of London which was not open to these objections. St. George's Barracks are quite unsuitable quarters for the medical examination of recruits and for recruiting purposes generally. It is satisfactory, therefore, to state that the War Minister admitted that these barracks were undoubtedly not in a creditable condition and that the War Office was negotiating at the present time for a site elsewhere on which to erect a new depot for recruiting. Let us hope that in the interest of the recruiting service it will not be in some dark and gloomy back street but in a light open thoroughfare, and that the new building will be of a character, as regards its external appearance and interior arrangements, to attract young men into the service instead of prejudicing them against it.

Correspondence.

'Audi alteram partem.'

THE SIGNIFICANCE OF ALBUMINURIA.

To the Editors of THE LANCET

SIRS,—IN THE LANCET of March 11th Professor Gardner asks, and goes far to answer the question in the affirmative,

Is there such a thing as 'physiological albuminuria?' In submitting the term some years ago, in THE LANCET and elsewhere, as expressive of a real phenomenon, I dwelt upon the evidence drawn from the observation of the albuminuria of pregnancy. In the old days, when albumen in the urine was looked upon as the decisive symptom of Bright's disease, a disease which implied organic change in the kidney, "physiological albuminuria" was not thought of, but when light was sought elsewhere than in the dead house, when direct clinical observation was appealed to, it came to be recognised that albumen was often found in the urine of persons whose kidneys were healthy. This is "physiological albuminuria." When this occurs it is an indication that under temporary strain or pressure there is a temporary disturbance in the equilibrium of the several functions—that is the temporary incapacity of one or more organs has to be supplemented by other organs until the balance can be restored, when each organ can resume its proper duty and all can work in harmony. Of late years evidence has been accumulating from various sources in illustration of this view. Speaking simply from my own experience, which is but a confirmation of that of many others I adduced the fact, of which I had seen several striking examples when physician to the Seamen's Hospital, of men who, after a sudden immersion in cold water, were affected with albuminuria, and who apparently completely recovered. Such cases surely admit of no other interpretation than that the physiological power was for a time on its trial and then asserted its integrity. But the evidence upon which I have chiefly insisted has been that offered by the luminous experiment of pregnancy. In a healthy young woman becoming pregnant the urine suddenly becomes loaded with albumen. I will not dwell upon the often concomitant nervous symptoms as eclampsia, but will simply call to mind the fact that when the experiment—i.e. the pregnancy—is over, the albumen commonly disappears and the subject returns to perfect health. What is this but "physiological albuminuria"? Pregnancy induces exalted vascular and nervous tension. This tension is too great for the complete response of the kidneys, but reduce the tension by bringing the pregnancy to an end and immediately the kidneys take up their work. Nature always strives to keep within physiological bounds. If she cannot carry on the pregnancy safely she often solves the difficulty by abortion. This is 'conservative abortion,' a lesson to the physician. Sometimes she solves the difficulty by hemorrhage into the intestine, from the uterus, or by epistaxis, or if she cannot find relief by the comparatively safe discharge of blood by a mucous membrane and thus by escape externally there may be internal hemorrhages as in the brain, causing apoplexy. One deeply interesting therapeutical lesson may be drawn from this study. It is to help nature in her physiological difficulty by bleeding. There is no remedy so prompt as this so certain in relieving excessive vascular and nervous tension, in restoring functional equilibrium and reducing the kidney and other organs from the imminent danger of being overtaken to the point of organic change. I do not propo-

St George-in-the-East, 29.9 in St. Luke, and 32.2 in Strand. During the four weeks of February 630 deaths were referred to the principal zymotic diseases in London, of these, 211 resulted from diphtheria, 161 from whooping cough, 94 from scarlet fever, 64 from diarrhoea, 63 from measles, 30 from different forms of "fever" (including 29 from enteric fever, and 1 from an ill defined form of continued fever) and 7 from small pox. These 630 deaths were equal to an annual rate of 1.9 per 1000, against 1.8 2.0, and 2.1 in the preceding three months. Amongst the various sanitary districts the lowest zymotic death rates were recorded in Kensington, Westminster, St Giles, City of London, St. Olave Southwark, and Woolwich, and the highest rates in Strand, Clerkenwell, St George-in-the-East, Limehouse, St. Vincent Southwark, Battersea, and Plumstead. Seven fatal cases of small pox were registered in London during the month under notice, the corrected average number in the corresponding periods of the preceding ten years being 16, of these 7 deaths, one each belonged to Kensington, Fulham, Marylebone, St. Pancras, Hackney, Whitechapel, and Greenwich sanitary districts. The 63 deaths referred to measles were less than half the average, amongst the various sanitary districts this disease showed the highest proportional fatality in Clerkenwell, Shoreditch, Whitechapel and Plumstead. The 94 fatal cases of scarlet fever exceeded by 11 the corrected average, this disease was proportionally most fatal in Marylebone, Strand, St. Luke, and Limehouse sanitary districts. The 211 deaths referred to diphtheria exceeded by as many as 119 the corrected average, amongst the various sanitary districts this disease showed the highest proportional fatality in St. George Hanover square, Hampstead, St. Pancras, St. Luke, Bethnal Green, St. George-in-the-East, Mile End Old Town, Newington and Rotherhithe. The 161 fatal cases of whooping-cough were little more than half the corrected average, this disease was proportionally most fatal in Chelsea, Hackney, Clerkenwell, Battersea, and Greenwich sanitary districts. The 30 deaths referred to different forms of "fever" were 21 below the corrected average, there was no marked excess of "fever" mortality during last month in any of the metropolitan sanitary districts. The 64 fatal cases of diarrhoea slightly exceeded the average. In conclusion, it may be stated that the mortality in London during February from these principal zymotic diseases was as much as 15 per cent. below the average.

Infant mortality in London during the month under notice, measured by the proportion of deaths under one year of age to registered births, was equal to 121 per 1000, and was considerably below the average, the lowest rates of infant mortality were recorded in St. George Hanover square, St. James Westminster, Hampstead, Limehouse, Lewisham, Woolwich, and Plumstead, the highest rates in Fulham, Chelsea, Westminster, Strand, Clerkenwell, St. Luke and Battersea sanitary districts.

THE SERVICES

MOVEMENTS IN THE MEDICAL STAFF

SURGEON LIEUTENANT W. G. BEYTS, is ordered to Woolwich on the 16th inst. Surgeon Major Kenny has arrived in Cyprus. Surgeon Lieutenant Colonel Gallwey, Surgeon Captain Gibbard and Surgeon Lieutenants Alexander and Crawford have embarked on a tour of service in India. Surgeon Captain Robinson has proceeded on duty to Egypt. Surgeon Captain Moore has been transferred from Pontefract to York and Surgeon Lieutenant Lawson to the Station Hospital, Western Heights, Dover. Surgeon Captain Durant has joined at York for duty.

ARMY MEDICAL STAFF

Surgeon Lieutenant Colonel Edwin J. Fairland to be Brigade Surgeon Lieutenant Colonel vice J. R. Greenhill, F.R.C.S. Eng., retired (dated Feb. 16th, 1893).

INDIA AND THE INDIAN MEDICAL SERVICES

The following appointments are announced—Surgeon Lieutenant R. K. Mitter to be Civil Surgeon of the Shwabo District in addition to his military duties. Surgeon Captain H. O. Trevor in Medical Charge of the Station Hospital, Calcutt, to do duty in the Myingyan and Mandalay District. Surgeon Captain C. A. Young doing duty in the Belgaum and Bengalore District, to the Medical Charge of the Station Hospital Calcutt. Surgeon Captain G. C. Hall to act as District Sur-

geon, Rajahmundry, during the absence of Surgeon Major H. St. C. Carruthers, on leave. Brigade-Surgeon Lieutenant Colonel S. B. Hunt to be Surgeon, Fourth District, Madras without prejudice to his present acting appointment. Brigade Surgeon Lieutenant-Colonel H. James Hazlett to be Surgeon, Third District, Madras. Surgeon Major C. M. Thompson, M.B., to act as Surgeon, Fourth District, Madras during the employment of Brigade Surgeon Lieutenant Colonel S. B. Hunt, on other duty. The services of Brigade-Surgeon Lieutenant-Colonel S. O. B. Banks, F.R.C.S., are temporarily placed at the disposal of Government in the Military Department. Surgeon Major H. W. B. Boyd, F.R.C.S., is appointed to act as Presidency Surgeon, Second District, and Marine Surgeon, in addition to his own duties, during the absence of Brigade-Surgeon Lieutenant Colonel S. O. B. Banks. Dr. J. L. Hendley is appointed to be Honorary Surgeon of the Decca Volunteer Rifle Corps vice Surgeon Major Cobb. The services of Surgeon Major W. G. King, I.M.S., are placed at the disposal of the Public Department. Surgeon Colonel P. S. Turnbull, M.D., I.M.S., is promoted to be Surgeon Major General, with effect from Feb. 26th, 1893, vice Surgeon Major General J. Pinkerton, M.D., retired. Dr. Coates, Civil Surgeon at Simla, has been selected for the Civil Surgeoncy at Lahore, when Dr. Center retires from the service in April. Dr. Cunningham from Mooltan will succeed Dr. Coates. Leave has been granted to Surgeon Captain E. O. Wright, A.M.S., to England, for seven months, and to Surgeon Major P. Warliker, I.M.S., in Medical Charge, 1st Regiment Madras Infantry (Pioneers), for six months. Surgeon Colonel A. H. Hilson, M.D., Inspector General of Civil Hospitals, Bengal, has been granted leave for eight months. Surgeon Major J. French Mullen Civil Surgeon of Rayshahi, has been allowed furlough for one year and fifteen days.

NAVAL MEDICAL SERVICE

The following appointments are announced—Surgeon Samuel J. Oddie, M.B., to the *Starling* (dated March 11th, 1893). Surgeon and Agent Mr. Thomas Macdonald, M.B., at Ullapool (dated March 9th, 1893).

MILITIA.

4th Battalion, the Border Regiment. Thomas Ricketts Morse, Esq. late Surgeon Captain, Army Medical Staff, to be Captain (dated March 15th, 1893).

YEOMANRY CAVALRY

Yorkshire Dragoons. Surgeon Captain F. R. Fairbank, M.D., resigns his commission (dated March 11th, 1893).

VOLUNTEER CORPS.

Rifle 1st Volunteer Battalion, the Cheshire Regiment. Surgeon Lieutenant J. R. McNeill, M.D., resigns his commission (dated March 11th, 1893)—1st (Brecknockshire) Volunteer Battalion, the South Wales Borderers. Andrew Whyte, M.D., to be Surgeon Lieutenant (dated March 11th, 1893).

OPENING OF THE SUMMER SESSION, ARMY MEDICAL SCHOOL, NETLEY

Surgeon Lieutenant-Colonel Fairland, Assistant Professor of Medicine, has been selected to give the introductory lecture on the opening of the Summer Session at the Army Medical School, Royal Victoria Hospital, Netley, on Monday, April 3rd.

THE DIPLOMA IN PUBLIC HEALTH AND THE ARMY MEDICAL SCHOOL, NETLEY

The syndicate appointed to superintend the Examinations in State Medicine at Cambridge has acceded to the application for the recognition of the course of instruction in Practical Hygiene in the Army Medical School, Netley, as qualifying for the Examination for the Diploma in Public Health in the University. This is a point of the greatest interest to the officers of the Medical Staff and Indian Medical Service, as it renders increased facility to the members of the Services when presenting themselves for the examinations for this diploma. Up to the present time comparatively few officers have been able to obtain this qualification (one of especial value to military medical officers who are constantly engaged with questions of sanitation and the health of our forces) in consequence of a certificate having been required of attendance at a six months' course of Practical Hygiene at a recognised school.

THE LATE SURGEON MAJOR KEITH

Permission has been given for the erection of a memorial

to the memory of the late Surgeon-Major R. Keesh, A.M.S., in the Garrison Church. New York.

ARMY COOKING

The new system of army cooking to which we have frequently referred appears to have excited a good deal of attention not only in this country but abroad, and the present War Minister made the subject one of the features of his speech in introducing his Army Estimates. The French army has sent over to this country some experienced men to inquire into the system of cooking adopted in our army and to inspect the school of cookery. The provision of a sufficient supply of well-cooked food is not only a matter of common requirement and common sense, but it is the first step in practical hygiene. A hungry man is always a discontented man, and occasionally a drunkard. The true saying that an army marches on its belly is a true one. As regards work, more cannot be got out of a man than is put into him, and a good commissariat is consequently of primary importance—especially in war. It is satisfactory to learn that our soldiers at home are better fed now than they have probably ever been before. The stock pot, practically speaking, seems to be the pivot of the new system of cooking at Aldershot and elsewhere.

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To the Editors of THE LANCET.

SIRS,—In THE LANCET of March 11th Professor Gardner asks and goes far to answer the question in the affirmative.

Is there such a thing as physiological albuminuria? In submitting the term some years ago, in THE LANCET and elsewhere, as expressive of a real phenomenon, I dwelt upon the evidence drawn from the observation of the albuminuria of pregnancy. In the old days, when albumen in the urine was looked upon as the decisive symptom of Bright's disease, a disease which implied organic change in the kidney, physiological albuminuria was not thought of, but when light was sought elsewhere than in the dead house, when direct clinical observation was appealed to, it came to be recognised that albumen was often found in the urine of persons whose kidneys were healthy. This is 'physiological albuminuria.' When this occurs it is an indication that under temporary strain or pressure there is a temporary disturbance in the equilibrium of the several functions—that is the temporary incapacity of one or more organs has to be supplemented by other organs until the balance can be restored, when each organ can resume its proper duty and all can work in harmony. Of late years evidence has been accumulating from various sources in illustration of this view. Speaking simply from my own experience, which is but a confirmation of that of many others, I adduced the fact of which I had seen several striking examples when physician to the Seamen's Hospital, of men who after a sudden immersion in cold water, were affected with albuminuria, and who apparently completely recovered. Such cases surely admit of no other interpretation than that the physiological power was for a time on its trial and then asserted its integrity. But the evidence upon which I have chiefly insisted has been that offered by the luminous experiment of pregnancy. In a healthy young woman becoming pregnant the urine suddenly becomes loaded with albumen. I will not dwell upon the often concomitant nervous symptoms as eclampsia, but will simply call to mind the fact that when the experiment—i.e. the pregnancy—is over the albumen commonly disappears and the subject returns to perfect health. What is this but physiological albuminuria? Pregnancy induces exalted vascular and nervous tension. This tension is too great for the complete response of the kidneys, but reduce the tension by bringing the pregnancy to an end and immediately the kidneys take up their work. Nature always strives to keep within physiological bounds. If she cannot carry on the pregnancy safely she often solves the difficulty by abortion. This is 'conservative abortion,' a lesson to the physician. Sometimes she solves the difficulty by hæmorrhage into the intra-uterine, from the uterus, or by ectasis, or if she cannot find relief by the comparatively safe discharge of blood by a mucous membrane and thus by escape externally, there may be internal hæmorrhages, as in the brain, causing apoplexy. One deeply interesting therapeutic lesson may be drawn from this story. It is to help nature in her physiological difficulty by bleeding. There is no remedy so prompt as this so certain in relieving excessive vascular and nervous tension, in restoring functional equilibrium and rescuing the kidney and other organs from the imminent danger of being overtaxed to the point of organic change. I do not propose

that venesection should take the place of the induction of labour, which is in most cases the proper course to adopt, but to insist upon it as a valuable resource in particular cases. It will rarely be advisable in "chronic albuminuria", it may occasionally be useful in Pavy's "cyclic albuminuria" and still more often in those cases of sudden albuminuria, such as the result of exposure to cold, or what may be called accidental causes. The important point is never to allow albuminuria to persist. Cut it short, if possible, whilst still "physiological," and so lessen the tendency to lapse into the pathological form.

I have so often dwelt upon the importance of studying the problems of pathology by the light of the physiological experiments presented by menstruation and pregnancy that I fear to become tiresome, but, as this source of knowledge is still particularly neglected by those who make a special study of kidney disease, I must plead justification.

I am, Sirs, yours faithfully,

March, 1893

ROBERT BARNES, M D

CHLOROFORM ANÆSTHESIA.

To the Editors of THE LANCET

SIRS,—The conclusion arrived at by the Hyderabad Commission on Anæsthetics that chloroform kills by interference with respiration is, no doubt, correct in the large majority of fatalities with this drug. But when the Commission goes on to lay it down as a law in the administration of chloroform that the pulse need not be noted that indeed noting it is actually harmful because it takes the anæsthetist's attention off the only thing worth watching, the respiration, it goes too far. A large number of cases have of course been published in which chloroform, properly administered, has caused death by paralysing the heart before it interfered with the process of respiration, but the teaching of the Commission is so positive, and, as many surgeons and anæsthetists think, so dangerous, that all cases in which the heart was first affected should be made known. Two such cases occurred at the Royal Victoria Hospital, Netley, lately. A skilled anæsthetist gave the chloroform from a Krohne's inhaler, than which there is no better apparatus for the purpose, and no struggling took place in either case. One was the case of a child aged three years, on whom the operation of needling was being performed for a congenital cataract, but as the operation was completed the boy's face suddenly became pale, and the pulse was found to be imperceptible at the wrist and in the neck. At this time no cessation of the movements of the chest and abdominal walls took place, and air was heard to pass in and out of the lungs freely. Under the use of the interrupted current, friction and ether subcutaneously, the attack of syncope passed off. The second case was that of a man on whom the "radical cure" was being performed for an inguinal hernia. The patient took the chloroform perfectly until the sac of the hernia was twisted. When this was done the man's face immediately blanched and the pulse became imperceptible, whilst the movements of respiration continued vigorous and effective. Ether was injected, the head lowered, sponges wrung out of very hot water were applied over the heart, and electricity to the neck. In about five minutes the pulse was again to be felt and the man recovered. Had the rules laid down by the Hyderabad Commission for the administration of chloroform been carried out in these two cases, had the indications afforded by observation of the pulse been disregarded and the condition of the respiration alone noted, the chances are that the deaths of these patients would have had to be added to the already too long list of "deaths under chloroform." But, luckily, the cessation of the pulse was one of the danger signals which was being looked for, and on its appearance steps were immediately taken to prevent the catastrophe of which it was the first sign.

When the dangerous symptoms arose in these cases the attention of those present was called to the sequence of events—that the pulse had quite ceased to be felt, whilst not only did the movements of respiration continue, but that they were effective in moving the air freely in and out of the lungs. I lay stress on this latter point because it does now and then happen during anæsthesia that the respiratory movements are vigorous, whilst no air can enter the chest on account of closure of the glottis. The twisting of a portion of the peritoneum may have had some effect in producing the syncope in the second case, nevertheless, you may con-

sider this note worth publication as *apropos* to the most points in chloroform anæsthesia.

I am, Sirs, yours truly,

W. A. STEVENSON,

March, 1893 Professor of Surgery, Army Medical School, Netley

THE PRACTICAL WORKINGS OF THE "LEICESTER SYSTEM"

To the Editors of THE LANCET

SIRS,—I think the following illustration of the way this much vaunted "system" is carried out will interest and astonish you. On Monday morning (March 6th) I found two men suffering from small pox lying in one bed in a double bedded room in a thickly populated part of the town. As there were six children and a man lodger (as well as the two patients), besides the father and mother, in the house, I thought these cases ought to be removed to the fever house without delay and I made a special journey to the health office, thereby ensuring the removal of these patients twenty-four hours sooner than they would have been if I had followed the usual course of sending the notification by post. Having placed the authorities on such advantageous terms I determined to observe the application of the prompt and vigorous "isolation method" which Leicester employs to prevent the dissemination of small pox, so thirty-six hours after the removal of the patients I called at the house and found that the authorities were burning sulphur there. The children were playing in the back yard, which was separated from other back yards by a 4 ft. wall, and the husband (who was a servant of the corporation) was told that he must not go to work, but that his wages would be paid and that he was to keep the children from mixing with others, he would, however, be allowed to take them after dark (sic) for a run in the Victoria Park (Leicester's right lung and the evening promenade of the people), and at night between 7 and 8 o'clock the husband and the four boys could take their prescribed walk. During some part of the day they are allowed to go and work on an allotment the husband has about a mile from the house, there are forty or fifty allotments adjoining his, and there is nothing to prevent the other holders and their children from going to work there. Last Saturday the husband was told that he could go to the town hall to draw his allowance, which he did, receiving a sovereign in lieu of wages whilst he was in "quarantine." Now comes the most remarkable incident of this "isolation system." The man who slept in the other bed in this double-bedded room where the two small pox patients lay was allowed to go to work as usual and has done so ever since. He works at the Midland Railway tunnel widening, where over 200 men are employed. I am simply stating facts. I will make no comments, but in conclusion let me say that a greater mass of incongruities and a greater bundle of inconsistencies than this "Leicester system" never emanated out of Bedlam.

I am, Sirs, yours truly,

JOHN T H DAVIES, M D Brux

Leicester, March 14th, 1893.

"OBSERVATIONS ON THE PREVALENCE OF TYPHOID FEVER AMONGST BRITISH SOLDIERS IN GARRISON IN EGYPT"

To the Editors of THE LANCET

SIRS,—I would feel obliged if you would give me space to make a few comments on Dr Mackie's article under the above heading which appeared in THE LANCET of Jan. 28th.

1 Dr Mackie's comparison between the relative prevalence of enteric fever amongst the British soldiers and the general population of Alexandria does not appear to me to be a just one. The population of Alexandria consists generally of Arabs, Levantines and other natives of the Mediterranean littoral, all of whom are born and bred in an atmosphere of insanitation and have been exposed to the contagium of enteric fever from infancy, at which age I believe it probable most of them pass through the disease, those that remain being the survival of the fittest. Such a view will account for the enormous infantile mortality in Alexandria and the apparent immunity of indigenous adults from enteric fever. For such a purpose the British soldier must be compared with persons of his own nationality and age. Roughly speaking, one soldier in ten contracted enteric fever during the

per year. Will Dr Mackie say that the disease does not prevail to at least this extent amongst the young British officers, the wives of officers, bank or mercantile clerks or English mail-erants? In my experience, in the latter class it prevails to about double the amount.

2 With regard to Dr Mackie's theory that the disease is communicable by clothes &c.—i.e., infectious. Surely if this were so we could find the disease running a similar course to other infectious or contagious diseases. But is this so? Is there a greater prevalence in one company than in another, or in one barrack-room than in another? The following list gives the number of admissions by companies 1st Devon Regiment, 1892, and the number admitted from each barrack-room. A Company = 14 B = 9, C = 12, D = 7, E = 8, F = 6, G = 8, H = 7. No 1 barrack room = 4, No 2 = 3, No 4 = 1, No 6 = 2, No 7 = 2, No 8 = 2, No 13 = 1, No 14 = 5, No 15 = 1, No 16 = 1, No 17 = 2, No 18 = 1, No 19 = 1. Every room occupied except No. 5, a very small room, supplied one or more cases of enteric fever. All the remaining cases were admitted from camp or elsewhere. Again, if one soldier buys an article of clothing which belonged to a deceased comrade, and he in his turn contracted the fever, would it not be very soon noticed by the men themselves? But no such feeling exists. I regret that the regiment (1st Devonshire) in which the epidemic occurred last year has now left this country, so that I am unable to ascertain by individual inquiry to what extent purchases of deceased men's clothing were made by those who contracted the disease. I have written to India for this information and will communicate it to you on receipt.

3 With regard to the distribution of infection by barracks and bedding the very facts adduced by Dr Mackie seem to disprove his theory. The 1st Devon Regiment, a very young corps, straight from England, marched into Ras-el-Tin Barracks on the very day that they were vacated by the 2nd Suffolk, Feb. 11th, 1891. The latter regiment had just passed through a very severe epidemic of enteric fever, yet for the whole of that year the Devons enjoyed excellent health. There were no cases of enteric fever at all for over six months and only a few sporadic cases and no deaths towards the close of the year. The epidemic in this regiment did not occur until eighteen months after the barracks were vacated by the Suffolks. In the same connexion Dr Mackie states "The tenacity with which the disease clings to a regiment is shown" by the disease pursuing them when turned into camp, the germ having been transported with them from the barracks." A more reasonable explanation seems to be that the water supply in the camp and in the barracks is identical. The water supply is, to my mind, so obvious a cause for the disease that any hypothetical theory, such as personal infection, appears to be uncalled for. The Mahmoudieh canal is the sole water supply of Alexandria. It is some forty miles long and is a great highway of traffic, with a large floating population and inhabitants living on its banks whose habits are filthy in the extreme. It is a pretty frequent receptacle for carcases, varying in size from a camel to a cat, and is in fact little better than a sewer. If a better cause be needed, it is not far to seek. The odours of Alexandria are almost unrivalled and the system of sewerage, where it exists is most defective.

4 With regard to Dr Mackie's observations on simple continued fever, I am far from denying that a certain number of cases of this disease may be mild enteric fever although the greatest pains are taken in the diagnosis of each case but the large number of cases quoted by him is very misleading. In a military hospital a name, according to nomenclature must be given to each disease. Nothing is more common than for a man to report sick with a headache and slight rise of temperature, perhaps one or two degrees. He is necessarily admitted to hospital, is discharged again in a few days and figures in the return as S C Fever. In civil life he would probably not be seen by a doctor at all, or at the most once or twice. Who that lives abroad is not familiar with the term, a touch of fever? Yet, if Dr Mackie's suggestions were to be carried out all such cases would have to be treated as though they were dealing with a case of plague. I might have proposed a theory which presents itself to me and which bears a much wider aspect. This and other insular countries are at present in much the same condition as England was some fifty years ago. At that time enteric fever was unknown or not recognised. As attention began to be paid to sanitary matters the disease made its appearance. Why was this? Was it a new disease?

What if it always existed? but that with bad sanitation it was a disease of infancy and as such escaped notice. We know how difficult it is to diagnose this disease in early life—without a thermometer, almost impossible. As sanitation improved the infants escaped the disease, but were then liable to contract it as adults whenever they became exposed to the contagium. If this theory be correct it would follow as an axiom that in a locality with bad sanitation there would be a high infant mortality and a low adult mortality of the indigenous adult inhabitants from enteric fever, whilst visitors from more favoured places would be very liable to contract the disease, exactly as we find in this country and in India, and further, that the greater the protection afforded to infants the less the immunity in later life.

I am, Sirs, yours faithfully,

W L CHESTER, M.B.,
Surgeon Major A.M.S.

Alexandria Feb 15th 1893.

THE BRITISH INSTITUTE OF PUBLIC HEALTH.

EXAMINATION OF SANITARY INSPECTORS.

To the Editors of THE LANCET

SIRS.—I fear your article in THE LANCET of March 11th is calculated to give an erroneous impression as to the objects of this Institute in connexion with the training and examination of sanitary inspectors. I shall therefore be obliged if you will allow me to say a few words on the subject. The Public Health (London) Act, 1891, Section 103 (2) (d), enacts that after the year 1894 practically no person shall be appointed within the metropolitan area to the office of sanitary inspector who does not possess a certificate of competency approved by the Local Government Board. As one of the bodies having powers to examine sanitary inspectors for this purpose, we in September last approached the Local Government Board on the subject and in our communication represented that in the public interest it was desirable that one examining board, on the lines of that formed by the Royal College of Physicians of London and the Royal College of Surgeons of England, should be formed for the examination of sanitary inspectors in England, the certificate emanating from which should be subject to the approval of the Local Government Board. In consequence of this communication the Local Government Board wrote to the Sanitary Institute on Dec. 21st, 1892, a letter from which the following is an extract "In the opinion of the Board it is undesirable that there should be a number of bodies independently holding examinations and granting certificates for the purposes above referred to. It seems to the Board that the most satisfactory course would be that some system of joint examination should be instituted by the Sanitary Institute and the British Institute of Public Health." To that letter I understand no reply has yet been received. As one fairly intimately acquainted with the whole bearings of this question, I am at a loss to understand on what authority you say, "There is no reason for believing that the Sanitary Institute desires to retain a monopoly of the examination or to prevent the constitution of some other body to undertake this important work." I only hope your surmise is correct. So far as the Mansion House meeting is concerned, in addition to the invitations which were sent, it was advertised in *The Times* and, I think, in six other daily papers and it was called neither for the purpose of disparaging the Sanitary Institute nor for the advantage of any other body, indeed, with the exception of Dr Littlejohn, our president-elect, none of this Institute's more prominent members took any part in the proceedings. The main object of the meeting was to strengthen the hands of the Local Government Board in carrying out the idea—initiated by this Institute and, I am glad to see, approved by yourselves—that there should be one conjoint examining board for England for the purpose of examining sanitary inspectors. The meeting was most successful and representative, delegates attending from many parts of England and Wales, Scotland and Ireland and I cannot doubt that the following resolution, which was unanimously passed, will have its proper weight with the Government "That this conference of delegated representatives of the sanitary authorities of Great Britain and Ireland held at the Mansion House, London, Feb. 18th, 1893, having considered the provision of the Public Health (London) Act 1891, requiring that every sanitary inspector appointed under the Act, except in the case of those specified

that venesection should take the place of the induction of labour, which is in most cases the proper course to adopt, but to insist upon it as a valuable resource in particular cases. It will rarely be advisable in "chronic albuminuria", it may occasionally be useful in Pavy's "cyclic albuminuria" and still more often in those cases of sudden albuminuria, such as the result of exposure to cold, or what may be called accidental causes. The important point is never to allow albuminuria to persist. Cut it short, if possible, whilst still "physiological," and so lessen the tendency to lapse into the pathological form.

I have so often dwelt upon the importance of studying the problems of pathology by the light of the physiological experiments presented by menstruation and pregnancy that I fear to become tiresome, but, as this source of knowledge is still particularly neglected by those who make a special study of kidney disease, I must plead justification.

I am, Sirs, yours faithfully,

March, 1893

ROBERT BARNES, M D

CHLOROFORM ANÆSTHESIA

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SIRS,—The conclusion arrived at by the Hyderabad Commission on Anæsthetics that chloroform kills by interference with respiration is, no doubt, correct in the large majority of fatalities with this drug. But when the Commission goes on to lay it down as a law in the administration of chloroform that the pulse need not be noted that indeed noting it is actually harmful, because it takes the anæsthetist's attention off the only thing worth watching, the respiration, it goes too far. A large number of cases have of course been published in which chloroform, properly administered, has caused death by paralysing the heart before it interfered with the process of respiration, but the teaching of the Commission is so positive, and, as many surgeons and anæsthetists think, so dangerous, that all cases in which the heart was first affected should be made known. Two such cases occurred at the Royal Victoria Hospital, Netley, lately. A skilled anæsthetist gave the chloroform from a Krohne's inhaler, than which there is no better apparatus for the purpose, and no struggling took place in either case. One was the case of a child aged three years, on whom the operation of needling was being performed for a congenital cataract, but as the operation was completed the boy's face suddenly became pale, and the pulse was found to be imperceptible at the wrist and in the neck. At this time no cessation of the movements of the chest and abdominal walls took place, and air was heard to pass in and out of the lungs freely. Under the use of the interrupted current, friction and ether subcutaneously, the attack of syncope passed off. The second case was that of a man on whom the "radical cure" was being performed for an inguinal hernia. The patient took the chloroform perfectly until the sac of the hernia was twisted. When this was done the man's face immediately blanched and the pulse became imperceptible, whilst the movements of respiration continued vigorous and effective. Ether was injected, the head lowered, sponges wrung out of very hot water were applied over the heart, and electricity to the neck. In about five minutes the pulse was again to be felt and the man recovered. Had the rules laid down by the Hyderabad Commission for the administration of chloroform been carried out in these two cases, had the indications afforded by observation of the pulse been disregarded and the condition of the respiration alone noted, the chances are that the deaths of these patients would have had to be added to the already too long list of "deaths under chloroform." But, luckily, the cessation of the pulse was one of the danger signals which was being looked for, and on its appearance steps were immediately taken to prevent the catastrophe of which it was the first sign.

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therein, 'shall be holder of a certificate showing that he has by examination shown himself competent for such office,' is of opinion (1) That this new enactment is calculated to afford an important additional safeguard to the public health, (2) that it should be extended to the Health Acts applicable to the United Kingdom generally, (3) that a central board of examiners should be formed to conduct the necessary examinations and grant certificates in connexion therewith, and (4) that the constitution of the board of examiners should be subject to the approval of the Local Government Board in England and Wales, the Local Government Board in Ireland for Ireland, and the Board of Supervision in Scotland." I would add that this Institute attaches far more importance to the training of sanitary inspectors than to their examination, but it has no desire that they should receive a "quasi medical knowledge" or in any way be educated out of their proper position.

I am loth to introduce any point of a controversial character into this letter, but it is right that it should be known that the position is at present complicated by the Sanitary Institute endeavouring to obtain a Royal Charter of Incorporation, the application is being opposed by the British Institute of Public Health, in common with the Incorporated Society of Medical Officers of Health, the Plumbers' Company, the Institute of Civil Engineers and other bodies. So far as we are concerned, we feel that it would be unfair and inexpedient, and not in the public interest, to give any single sanitary institute or society such a prestige as is thus sought, to the prejudice of other allied and not less important bodies, especially in view of the negotiations which must take place for the formation of a single examining board.

I am, Sirs, yours truly,

WILLIAM R. SMITH, M.D., D.Sc., F.R.S. Ed.,
Chairman of the Council

Hanover square, W., March 7th, 1893

Our correspondent is "at a loss to understand on what authority" we say "there is no reason for believing that the Sanitary Institute desires to retain a monopoly of the examination or to prevent the constitution of some other body to undertake this important work." We would ask him what authority has anyone for assuming that the Sanitary Institute has such desire? For our own part, we have regarded the Institute as consisting of gentlemen who, in the absence of a better qualified body, have undertaken a useful work, and we are certainly not prepared, without a shadow of evidence, to assume that these gentlemen are desirous of adopting a course which we believe would not be to the public interest. We note that Dr Smith does not attempt to give any explanation of the omission to send cards of invitation to the meeting at the Mansion House to members of the council of the Sanitary Institute, an omission to which Dr Corfield and others called attention in the public press and to which we alluded in our article.—ED. L.

INSANITARY SCHOOLS

To the Editors of THE LANCET

SIRS,—An allegation is made as to the insanitary condition of one of our public school buildings in this town. Curiosity is given to a report that, owing to the presence of stagnant water underneath its floor, it was unhealthy. The school board members immediately had the flooring taken up for investigation. Water was discovered covering an area of something like twenty square yards, having a depth of six inches in the centre. The water is as clear as crystal, and perfectly sweet, even the sediment at the bottom is sweet. There is an excavation of three feet below the floor, which is properly ventilated. The flooring boards and joists are perfectly dry, and the walls show no sign of dampness whatever. The building (a comparatively new structure fulfilling in every way the requirements of the Board of Education) is built partly on a rock, which had to be blasted. It appears that a natural spring oozed from this rock, which, no doubt, accounts for the water. I may also add that after a fortnight of dry weather this water had subsided four inches in depth and covered an area of only ten square yards. To drain this water will entail a very heavy outlay. Will you

kindly express your opinion on the matter? Is the presence of this water a source of danger to the health of the children?

I am, Sirs, yours faithfully,

Llanrwst, North Wales, March 11th, 1893. GEORGE WILKINSON

There cannot be a doubt that the presence of such a sheet of water beneath the flooring of a building must be a source of danger to the inmates. The fact mentioned in the letter that the source of the water is probably a natural spring also makes it certain that unless steps are taken to remedy the existing state of affairs the risk to the children will be constant. Certainly the clearness and sweetness of the underground water may be looked upon as fortunate, but they do not abolish the dangers of dampness. Equally sure is it that the absence of damp from the walls at present is no guarantee for their dryness in the future. We should strongly recommend that the expense of subsoil drainage (however great) should be incurred, and the basement of the building should be covered with six inches of concrete.—ED. L.

"ISOLATION" & "INUNCTION"

To the Editors of THE LANCET

SIRS,—Dr Thresh, in his letter published in THE LANCET of March 4th, implies that I was the author of, or in some way responsible for, some letters in the Hitchin local papers in November last on the subject of infectious hospitals. I am not responsible for anything published in the Hitchin papers, and I had no communication with anyone at Hitchin until I received a letter from a gentleman residing there in February, who was unknown to me, asking for information on the subject of antiseptic inunction. This I replied to and on Feb. 14th I received a letter from him telling me of "the abandonment of the scheme" for building a hospital, "at least, for some time to come." I may have mentioned Chelmsford in my letter to him as one of the places where inunction was used, and I now regret that I had not written and asked Dr Thresh for particulars, as in every other instance I have done, instead of trusting to the communication of a third person. I have never mentioned Dr Carter's name in relation to the matter. In 1891 the Enfield Board proposed to build a hospital, they were advised to try the inunction method of disinfection first. They did so and the hospital is not yet built. Dr Ridge has always declined to give me any information as to the results of its use. In his last letter to me in December he says "I am not prepared to give you any evidence with regard to the use of the eucalyptus. I have no means of knowing whether it has been properly used, but it is certainly not an infallible preventive in practice." If it be left entirely to the sanitary officer to leave a bottle at each house, with verbal directions to the mothers, how could this or any form of disinfection be infallible? I know that the only precaution taken has been the separation of the other children of the family from the patient. They have not been subjected to the disinfectant precautions mentioned by me in my papers. There is no reason why antiseptic inunction, if properly carried out, should not be as successful in the hands of Dr Ridge or Dr Thresh as it has been during the last three years in the hands of many others. These two gentlemen are the only persons from whom I have received any adverse opinion as to the perfect success of antiseptic inunction by the eucalyptus disinfectant in arresting infection. I only ask for a fair trial of inunction, accompanied with all necessary precautions with regard to other children who may have been exposed to the infection and as regards infected clothes, toys &c., but this I fear I must not expect at the hands of the advocates of the hospital system, although that system has proved a disastrous failure, as shown by some facts and figures lately published. The average cost of each patient admitted into an infectious hospital ranges from £5 to £30, exclusive of the cost of the building and site, and the returns from the London Asylums Board show that with all their efforts and the expenditure of over £100,000 in six months they have not in the slightest degree checked the progress of the epidemic of scarlet fever. For on April 2nd last there were 1227 cases in the hospitals, and last week there were 2293, the figures in the interim having never receded to the former number. This is a serious matter for the consideration of the ratepayers, and one requiring the

investigation of the Local Government Board before £50 000 more is spent on building a hospital at Tooting. To return to Dr. Thresh, whose letter would lead your readers to believe that I have made other false statements. At Bexley it was proposed last June to build a hospital, but it was decided to try the inunction method first. The hospital is not built, and Dr. Sunderland, in a letter to me in December, says, "I have used the eucalyptus plan in all cases of scarlet fever under my care since I saw you (in July) and have had no spread of infection" then why build a hospital? The epidemic there was brought to a close with 157 cases, these if treated in a hospital would have cost the ratepayers £1700 but if the whole had been treated by antiseptic inunction the cost would not have exceeded £40. I have not at any time, as implied by Dr. Thresh, stated that Mr. Hayward of Haydock was using inunction to the exclusion of isolation. In his letter to me that gentleman says "I have certainly seen, since employing this treatment, several cases where the disease (scarlet fever) did not spread to other children of the family who were not protected by a previous attack and where no strict isolation was possible." I cannot trespass further on your valuable space, as all who desire information on the subject can obtain it from my published papers or from the reprint of my last paper from the *Medical Magazine*. It is impossible for me to ascertain who have been using this method of disinfection, but I hope that those who have tried it will not fail to communicate their experience of it to the profession.

I am, Sirs, yours faithfully,

Teddington, March 9th, 1893.

J B CURGENVEN

"DEATHS UNDER CHLOROFORM"

To the Editors of THE LANCET

SIRS,—I crave your indulgence whilst I make a few remarks on the letters which have appeared under the above heading. Like Dr. Edgewell, I was much struck with the case published above my letter by Mr. Rowlands because of its apparent *à propos*ness to my remarks. However I demur to it as an illustration of the "open method" since the exhibition of an anæsthetic on lint is not the same thing as a folded towel. Dr. Haughton exactly expresses my thoughts when he calls the use of lint "simply an abomination," and Dr. Robinson Hill has directed attention to Syme's condemnation of its use. The essence of the use of the folded towel is to ensure an admixture of air and chloroform which varies with the stage of administration, the amount of the former being slight at first, and then, as anæsthesia becomes established, there is a larger quantity of air permitted access. This is readily managed by bringing the towel nearer to or farther from the face, according to whether it is desired to let the patient come out or to put him more decidedly under. There is another point requiring special notice, and this is strikingly emphasised in a letter from Mr. A. Neve, where he relates a case under his own care. This point is that there is more danger of giving too little chloroform than too much. It would be interesting if a record could be obtained of the number of deaths, if any which have occurred in the Edinburgh Infirmary since Syme's day. I never heard of one myself all the time I was in Edinburgh. I throw out this suggestion, not because I would be disposed to base any argument upon statistics merely but as a species of corroborative evidence. In conclusion, I trust this matter will not be allowed to rest in its present unsatisfactory state. Let there be some authoritative dictum.

I remain, Sirs, yours sincerely

G A. VAN SOMEREN, M.D. Edin.

Orange New South Wales Feb 4th, 1893.

SMALL-POX AT LEICESTER

To the Editors of THE LANCET

SIRS,—In view of the "statements" that are appearing in the medical and lay papers as to small pox and the staff at the Leicester Fever Hospital, allow me to give you the following facts. At the time of the small pox outbreak our fever hospital staff consisted of 1 medical officer, 1 matron, 15 nurses, 1 cook, 3 wardmaids, 4 laundresses, 1 stoker, 1 porter and his wife—making 28 persons in all. Of these 28, 22 were protected either by a previous attack of small pox or by revaccination (including 8 whom I revaccinated) whilst the remaining 6 had only been vaccinated in childhood and so were not 'efficiently' protected. Of

these 6 'inefficiently' protected officials, all of whom refused revaccination which I offered them, 4 have since contracted small pox and 1 has died, so that 2 only of the staff now remain 'inefficiently' protected, and it will be interesting to note their future histories. The 4 recent additions to our hospital staff have now been revaccinated. One nurse (said to have been revaccinated ten years ago) has suffered from a doubtful attack of modified small pox (half a dozen spots in all, and these abortive), and, curiously enough, she too refused revaccination when our small-pox broke out. I am unable to ascertain whether or not her revaccination was efficiently performed. Her case (if small pox at all) would seem to point to the advisability of even revaccination being *re-done* in times of epidemics." The above is an extract from a report already in the hands of the printer.

I am, Sirs, yours truly,

JOSEPH PRIESTLEY,

Medical Officer of Health.

Leicester, March 10th, 1893.

HOW UNION APPOINTMENTS ARE MADE

To the Editors of THE LANCET

SIRS—Frequently in THE LANCET and elsewhere are advertised vacancies for medical officers to various unions. Will you allow me through its columns to point out what a farce these elections are? As a matter of fact nearly all these appointments are cut and dried, and the man who buys the practice or death vacancy, as the case may be, practically buys the appointments as well. I do not so much grumble at this, but what I object to is the fact of boards of guardians asking for applications and then not even troubling to have the applicants before them when the appointment is made, which is frequently the case. In my personal experience I have been a candidate for two union appointments, in the first instance I bought the practice (the union appointment connected with it was not even advertised) and I was of course elected. This may be illegal, as I believe all union appointments are supposed to be advertised, but in my opinion it is far preferable not to do so than to advertise an appointment already practically filled up. In the second instance I was one of six applicants and the board, after advertising the appointment and asking for testimonials did not wish to see any of us at the election and eventually appointed the man (a foreigner) who had bought the practice. What, then, is the use of applying for these posts as the elections are at present conducted? If boards of guardians really wish to appoint the most suitable man they certainly ought to have the candidates before them and consider carefully every application. At present the whole thing is a farce, and a man who buys a practice and has been qualified only a week stands a better chance of the appointment than one who has had ten years' experience and has held a similar post. Trusting you will insert this letter and enclosing my card,

I am, Sirs, yours truly

Feb 22nd, 1893.

M R C P

MANCHESTER

(FROM OUR OWN CORRESPONDENT)

Enlargement of the Medical School at Owens College

THE half yearly meeting of the council of the Owens College was held on the 7th inst., at which a report was presented showing the attendance of students in the several departments. The total number of day students was given as 941, of which 356 were medical (as compared with 389 at the corresponding date of last year). One of the causes of this falling off in the number of medical students is believed to be the insufficient accommodation at present available in the existing medical school buildings. The fine new buildings for this school are fast progressing towards completion under the direction of Mr. Alfred Waterhouse, architect to the college. The subscriptions received towards the building fund of this part of the college now amount to rather more than £20 000 which is very far short of the probable requirements of the scheme. The report proceeds—'At a time when the college is incurring heavy responsibilities on behalf of its medical school and is involved in a steadily increasing annual expenditure on account of the natural history museum, it is cut off by lack of funds from other important developments necessary to its progress in the departments of arts and

science. Under these circumstances the council regretted to learn that the Chancellor of the Exchequer has felt himself compelled to decline to receive a deputation on the subject of an increased Government grant to University Colleges, such as was explicitly recommended in the report of the Committee of the House of Commons, ordered to be printed March 21st, 1892." The report further states that the Queen's gift of £2000 out of the funds of the Duchy of Lancaster is to be applied towards the cost of a site for the women's department of the college.

Schorlemmer Laboratory

The friends of the late Professor Schorlemmer, F.R.S., are raising funds for the erection at Owens College of a new organic chemistry laboratory bearing his name. On completion this laboratory will be presented to the college, and will further enrich the already splendid laboratory equipment of that institution. The college has undertaken, in the event of suitable plans being submitted, to provide an appropriate site for the purpose.

Violent Conduct of a Patient in Hospital

On Tuesday last, at the City Police Court, a young man who had just been discharged from the small pox hospital at Monsall was charged at the instance of the sanitary authorities with exposing himself and his clothing in the public street whilst suffering from a dangerous infectious disease, and also with doing wilful damage to the hospital buildings. It appears from the evidence that on the 2nd inst. the defendant was a patient at the Monsall Hospital, suffering from small pox. He was allowed to take exercise in the hospital grounds, but was specially cautioned not to go beyond them. He, however, effected his escape from the hospital, and ran some distance along the streets, through which many people were passing at the time. Dr Berry, the medical superintendent of the hospital, promptly gave chase to the fugitive patient and had the good fortune to find him and to induce him to return to the hospital. On being placed again in the small pox ward the man at once became violent and abusive and threatened to assault both nurses and doctors. He went into the ward lavatory and, after fastening the door, began to smash the window and to otherwise misconduct himself. Medical evidence went to show that during the defendant's stay in hospital he was a very unruly patient and caused considerable trouble. On being asked by the magistrates why he had committed these outrages, the defendant said that he was very sorry for his misconduct, but that he was not accountable for his deeds whilst in hospital, for he did not know what he was doing, he was "wrong in his head." Dr Berry, however, was able to satisfy the bench as to the patient's perfect sanity, and the magistrates sentenced the man to a fine of 15s and costs, or fourteen days' imprisonment as an alternative.

The Small pox Epidemic

Small pox still continues to spread in the community of which Manchester is the centre but in the city itself fewer cases were reported during the week ending Saturday, March 4th, than in any week since the commencement of the year. In the week ending on Saturday last, however, 24 cases were reported, against 10 only in the preceding week, and the medical officer of health reports after personal inspection of the patients, that the type of the disease still continues to be severe. Many of the cases are confluent or semi confluent, and not a few are of the hæmorrhagic variety, consequently the case fatality is considerable. The number of cases in hospital on Saturday last was 155, as compared with 189 at the end of the previous fortnight.

The Wilington Hospital

Mr Justice Chitty has now given judgment in the case of the Attorney General v the Mayor and Corporation of Manchester. His lordship said this was the third motion against the Manchester Corporation on this subject. The ground of the motion was an apprehended public nuisance—an apprehended danger to the public health. His lordship quoted recent statistics of small pox prevalence in Manchester which showed that there were still grounds for apprehension in regard to its further spread. He was of opinion that the allegation that the corporation had acted wantonly in the matter was not justified. Each side had produced reputable witnesses competent to speak on the subject of small pox and of small pox hospitals, and his lordship did not impugn the good faith of these witnesses. In his opinion the evidence in favour of the plaintiff's case was not sufficiently cogent to make the question of granting an injunction turn on

the balance of convenience or inconvenience, and taking all things into consideration he had arrived at the conclusion that the plaintiff had failed to show that the apprehended danger would infallibly ensue. His lordship was of opinion that the court should exercise great caution before using a power which might tend to close many well ordered hospitals. The motion was therefore dismissed and the injunction was refused.

Manchester, March 14th

BIRMINGHAM

(FROM OUR OWN CORRESPONDENT)

The General Hospital

THE 113th annual meeting of this institution was held on the 15th inst., under the presidency of the Earl of Dartmouth. The report showed that £1039 more had been spent this year, mostly in cleaning and painting the old building. During the past four years the in-patients had increased by 20 per cent. and the out-patients by 10 per cent. In the last twenty years the number of in-patients had increased by no less than 64 per cent and the out-patients had doubled. The nursing arrangements had also been considered, much to the comfort of the nurses. Dr Wade was appointed consulting physician, Mr W. T. Smedley was elected a life governor. The usual votes of thanks were passed.

Ingledby Lectures

Dr Carter, the appointed lecturer for the year, has arranged to give a course of three lectures on Diarrhoea and Constipation in Childhood. The first and second were well attended and listened to with much interest.

Mason College

Dr Savage has been appointed Professor of Gynecology in the college. He has been for many years senior surgeon to the Women's Hospital. He was the only candidate. Mr Oliver Pemberton was elected Bailiff of the college at the same meeting.

Athletic Institute

The last of a series of health lectures is to be given by Sir J. Crichton Browne on the 18th inst., the subject being Heredity. This institution is in a flourishing condition and is popular among the young people of the city, exercises and recreation are also provided for the middle aged.

March 15th.

NORTHERN COUNTIES NOTES

(FROM OUR OWN CORRESPONDENT)

The Fleming Memorial Hospital (Newcastle) for Sick Children

In my notes which appeared on Feb 18th last, referring to the annual report of the Children's Hospital, Newcastle-on-Tyne, I said that there was no mention made of the death-rate, which was considered by some as being excessive. This statement I am glad to correct. The mortality due to operations has been 9, or at the rate of 2.7 per cent., whilst the total mortality of the hospital has been at the rate of 5.65 per cent., against 7.89 in the previous year.

The Spread of Small-pox

Dr Edward Jepson of Durham has a very pertinent letter about the spread of small pox in one of our local papers. He shows how outbreaks of the disease have followed the admission of tramps into the Durham gaol, and he urges upon all guardians and members of sanitary boards to lay the importance of vaccination before the Local Government Board, so as to have all tramps admitted into gaols and workhouses efficiently vaccinated with calf lymph. Dr Jepson thinks if this rule were enforced for one month the disease would be stamped out. Cases of small pox are reported from Wigton, Penrith, Workington, Kendal and Grasmere. As before, the cases have been solitary ones, introduced by tramps or wayfarers and have been promptly dealt with by the sanitary authorities.

Sunderland Lunatic Asylum

It is stated that the Sunderland Corporation have definitely decided to light their new lunatic asylum now in course of erection at Ryhope, with electricity. It is said that the

initial cost will be about £1500 more than gas, but there will be a saving in the long run, as the working expenses will be £175 less per annum.

Sudden Death of Dr George Hood of Tow Law, co Durham

The death of Dr George Hood of Tow Law is announced. Dr Hood, who had been for some time indisposed and confined to his house, dined with his family on Sunday last, but a few minutes after retiring to bed he expired from cardiac weakness. Dr Hood, who was a graduate of Edinburgh University, was about fifty five years of age and had practised in Tow Law over thirty years.

Bequest to Whitehaven Infirmary

Mrs. Robertson, late of Gulgarron, has left by her will about £600 to Whitehaven charities, including the Whitehaven and West Cumberland Infirmary.

The Proposed Floating Hospital for the Tees

It was last week resolved by the Tees port sanitary authority to borrow £7000 to build the proposed floating hospital from the designs of Mr Laws, city engineer Newcastle.

Death under Chloroform at South Shields

A death took place the other day in the case of a patient who was placed under chloroform for severe injury to his leg, sustained by a grating becoming loose on board a ferry steamer. It was shown that the chloroform was carefully given and that shortly after entering the stage of excitement he suddenly ceased breathing and died. The patient was a travelling jeweller aged forty nine. Drs Gibbon and Sutherland and Mr Crisp were engaged in the case and agreed in their testimony. The coroner at the inquest, in commenting on the case, said that the percentage of deaths from the use of chloroform was very small indeed.

Newcastle-on Tyne, March 15th.

SCOTLAND

(FROM OUR OWN CORRESPONDENT)

Association for the Promotion of Reform in Medical Education

AFTER a long period of inactivity this Association is again making its existence known, the Executive having called a meeting of it to consider a draft report on the Financial Ordinances issued by the University Commissioners. The report, as prepared by the Executive, examines the draft ordinance very critically and is frank and unsparing in its condemnation of what the Commission proposes to do, but chiefly of what it leaves undone. The result of the meeting will be referred to next week.

Female Medical Practitioners and the Edinburgh Medical Societies

Some time ago a female medical practitioner of medicine in Edinburgh asked for an application for membership to the Medico-Chirurgical Society. The matter was brought before the Society, and as there was no law against admission notice was given of a motion to modify a law, so that only male practitioners should be eligible for membership. This was carried by a large majority. The same lady applied for admission to the Obstetrical Society, and as she was proposed and seconded and no law existed to exclude her she was balloted for, but not admitted. A majority of two-thirds is necessary for admission to this Society. The feeling in both societies was that the presence of women would more or less hamper freedom of speech, and this was felt by many members who were quite friendly towards them from the educational standpoint.

Closes of the Winter Session

The session of the medical classes in Edinburgh closes on Friday, the 17th inst. The First Professional Examination at the University begins on Monday next and the Second Professional Examination on the following Monday.

Inspection of Dead Meat in Edinburgh

Last week it was under the notice of a subcommittee of the Public Health Committee of Edinburgh that it had become a custom to send dead meat to the slaughter houses addressed to the superintendent and marked 'for inspection', if passed to be handed to — (here the name of a salesman being entered). It was observed that this opened a wide door for dishonest traders endeavouring to palm off on the public meat which they knew to be diseased, that

the slaughter houses were not intended for the reception of dead meat, and that it put too much power into the hands of the superintendent, who might be a person with no special knowledge of the diseases from which cattle died. The subcommittee were unanimously of opinion that the practice should be discontinued and that public notice should be given of the same.

The Edinburgh City Hospital

At the meeting of the Edinburgh Town Council last week it was reported that there were 260 patients in the City Hospital and 17 cases of small pox in the small pox hospital, and that the epidemic of measles and scarlet fever was subsiding. At the same meeting a deputation was appointed to visit some other towns to inspect their infectious diseases hospitals with a view to obtaining information as to the alterations and additions to be made at the Edinburgh City Hospital.

March 14th.

IRELAND

(FROM OUR OWN CORRESPONDENT)

Royal College of Surgeons

A MEETING of the College has been convened for the 18th inst. by the vice-president of the College, in the absence of the president, to consider the "Government of Ireland" Bill at present before Parliament, as affecting the future state of the College and the position and interests of its Fellows and Licentiates. The meeting is called consequent to a requisition signed, among others by Sir G. Porter, Bart., Sir Philip Smyly and Sir William Stokes.

Report of 112 Abdominal Sections performed in the Rotunda Hospital

Dr W. J. Smyly, Master of the Rotunda Lying-in Hospital, read a report recently at a meeting of the Royal Academy of Medicine, on 112 Abdominal Sections. There were 43 ovariectomies, with 7 deaths, and 47 hysterectomies. In 5 cases he performed total extirpation of the uterus, freeing the cervix per vaginam, and subsequently removed the entire organ by abdominal section. One of these patients died. In two cases this method was adopted because of malignant disease of the mucous membrane—in one, malignant adenoma; in the other carcinoma. Both these women are now alive and well. Porro's operation was performed on a patient with rupture of the uterus extending into the posterior fornix of the vagina, with a fatal result. An umbilical hernia was operated on by Sanger's modification of Mr Lawson Tait's flap-splitting method. In this the fibrous ring surrounding the opening was split with scissors and the flaps thus formed were turned outwards and inwards, the deeper ones being united by a continuous catgut suture and the superficial by an interrupted suture. The result was excellent.

Medical Magistrates

Dr John Hegarty has been placed on the Commission of the Peace for the county Galway, also Dr James Trant and Dr Stoker for the county Kerry.

The Sanitary Institute in conjunction with the Corporation of Dublin

The eleventh provincial course of lectures and demonstrations for sanitary officers and others will commence in Dublin on the 18th inst., when the introductory lecture to the series of twelve lectures will be delivered by Sir Charles Cameron. The other lecturers will include Sir Douglas Galton, K.C.B., Mr Francis Vacher, Professor Antony Roche and Mr Edgar Flinn. These lectures will be illustrated by diagrams, models and drawings and they have been arranged for the special instruction of those desirous of obtaining knowledge of the duties of sanitary officers.

March 5th.

FOOTBALL CASUALTIES—Whilst playing a game in the playground attached to the Green Lane Board School New Worley, on the 9th inst., a schoolboy fractured his leg and has been admitted to the Leeds Infirmary. On Saturday last during a match on the Leeds Institute ground, a player fractured his leg and was removed to the Leeds Infirmary. On the same day in a match at Horsforth between Woodside St. James and Armley A. Team, a player fractured his leg.

Obituary.

J DAVIES THOMAS, M D LOND, F R C S ENG
OF ADELAIDE.

INFORMATION has just been received of the lamented death of Dr J Davies Thomas, which took place at Adelaide on Jan 30th after a long illness and at the early age of forty nine. His medical education commenced at University College, London, where his studentship was marked by more than ordinary assiduity and successful competition for prizes within his reach. After completing his curriculum he obtained the licence of the Apothecaries' Society and subsequently the membership of the College of Surgeons. In the same year (1867) he passed the first examination for the M B Lond. Two years later he gained the licence of the College of Physicians, passed the second examination for M B, and graduated M D Lond after having obtained the F R C S Eng. Having thus become fully equipped for the career he proposed to follow, he sought and obtained the posts of resident medical officer of University College Hospital and resident clinical assistant at the Brompton Hospital, serving also at the former hospital under Sir William Jenner and Dr Russell Reynolds. Ardent devotion to his duties, however, soon resulted in failure of physical power, and in 1875 the subject of our notice was compelled to leave London and take a voyage to Australia. After a few weeks' residence in Victoria he was appointed senior house surgeon in the Adelaide Hospital, a post which he, however, resigned to the great regret of the other members of the hospital staff. At Adelaide Dr Thomas occupied many important posts with great acceptance. He was joint lecturer with Dr Verco on Medicine at the University, and for eight years was a member of the council. His literary work does not appear to have been extensive, though but for the paralytic attack which prostrated him many months ago an important work upon which he was engaged would doubtless have appeared. One book of his, on Hydatids, a subject to which he devoted much study, has been published and is highly spoken of. The profession in South Australia have to mourn the loss of a distinguished confrere, and the patients who came under his care that of a sagacious physician and a sympathising friend.

THE CROONIAN LECTURE OF THE ROYAL SOCIETY

A BRILLIANT and distinguished audience assembled in the theatre of the University of London to listen to the Croonian Lecture delivered by Professor Virchow before the Royal Society on Thursday, March 18th. The President of the Royal Society, Lord Kelvin, conducted Professor Virchow into the Theatre amid manifestations of cordial welcome.

The subject of the lecture was a review of the history of pathological science, more especially in its bearings on the question of the doctrine of life. It is published *in extenso* in another column. The concluding sentence, "May this union never be broken," was greeted with loud applause, the lecturer referring to the scientific union which had endured between English and German investigators for more than three hundred years.

At the conclusion of the address, which occupied one hour and a half in delivery, and which was delivered in English, Lord Kelvin called upon Sir Joseph Lister to move a vote of thanks to Professor Virchow. Sir Joseph Lister, in doing so said "We hardly know whether to admire most the erudition, the wisdom, or the eloquence which has been displayed. To hear this prince of pathologists speaking amongst us has been a very great treat. An account of the wonderful history of the advance of pathology from the earliest times, culminating in his own great contributions to that advancement, must have afforded the greatest satisfaction to all who heard him."

Dr Samuel Wilks, as an old student of pathology, seconded the proposition "Professor Virchow," he said, "had been our great master in England for many years. To him pathology was mainly indebted, and through the pathologist the medical profession at large, perhaps, was indebted to him

more than to any other man in the scientific world. Professor Virchow had been his master for all his life, a statement which might appear very remarkable, seeing that both of them were pretty nearly of the same age, but that only showed how early Professor Virchow had begun to make himself felt in the scientific world."

Professor Michael Foster then asked Professor Virchow, as he had delivered his address in English, to address a few German words from his true German heart. In complying with this request Professor Virchow, speaking in German, said in effect that England had not lagged behind the other nations in the world in the pursuit of science, that was in a great measure due to the freedom which was allowed to that pursuit in England. In the domain of political freedom England stood far ahead of Germany. England, he said had never lacked freedom to undertake and pursue science, but, now that Germany had partly obtained this advantage, he trusted that his native land would be able to keep pace with the progress of science in this country, and the two countries would be united in closer bonds, which he hoped would never be broken.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentleman having previously passed the necessary examinations and having now conformed to the by laws and regulations, was at the ordinary meeting of the Council on Thursday, the 9th inst., admitted a Member of the College —
Hill Charles Alex., student of Cambridge University and St. George's Hospital.

ST MARY'S HOSPITAL ATHLETIC SPORTS DINNER. Mr Henry Juler presided at this dinner, held on March 9th at the Criterion Restaurant. There were 117 present, including Sir Edward Sieveking, Dr Farquharson, M P, Dr Braxton Hicks, F R S, Dr Danford Thomas, Dr Alder Wright, F R S, Mr Herbert Page, Dr Sidney Phillips, Dr Waller, F R S, Dr Handfield Jones & Co Staff Surgeon Theodore Preston, R N, responded for "The Navy," Brigade Surgeon Myers for "The Army," and Dr Danford Thomas for "The Reserve Forces." Dr Farquharson, M P, gave the toast of "The Staff," and the Dean, Mr G P Field, replied. The chairman gave the toast of the evening, and Messrs Poynton, Mould, Bond and Collier returned thanks for "The Cricket, Athletic and Football Clubs." The chairman's health was proposed by Mr A J Pepper. The musical arrangements were admirably carried out by Messrs J E Lane, Marcus Johnson, W Marshall and E Staples.

THE LEVÉE.—On Monday last the following presentations were made, on behalf of Her Majesty, to H.R.H. the Prince of Wales at St. James's Palace.—Surgeon Lieutenant R. F. E. Austin, Army Medical Staff, by Lieutenant General Sir H. E. Wood, V C, G C B & Co, Surgeon Lieutenant H. A. Bray, Army Medical Staff, by Lieutenant General Sir E. Wood, V C, G C B & Co, Surgeon C. L. W. Buntton, M B, R N, by the Medical Director General of the Navy, Surgeon A. S. G. Bell, R N, by the Medical Director General of the Navy, Fleet Surgeon A. T. Corrie, R N, by the Medical Director General of the Navy, Surgeon Major E. R. Cree, Army Medical Staff, on promotion, by Lieutenant General Sir H. E. Wood, V C, G C B & Co, Medical Director General J. N. Dick, C B, R N, on appointment as Hon Surgeon to Her Majesty, by First Lord of Admiralty, Surgeon Major P. M. Ellis, Army Medical Staff, by Lieutenant General Sir E. Wood, V C, G C B, Surgeon R. J. Fyfe, R N, by the Medical Director General of the Navy, Deputy Inspector General J. W. Fisher, M D, R N, on promotion, by the Medical Director General of the Navy, Surgeon Lieutenant G. Y. G. Hunter, Indian Medical Service, by the Secretary of State, Surgeon Major L. Hall, Army Medical Staff, on promotion, by Director General A. M. S., Surgeon G. Ley, R N, by the Medical Director General of the Navy, Surgeon F. D. Lumley, R N, by the Medical Director General of the Navy, Surgeon P. Lord, M B, R N, by the Medical Director General of the Navy, Surgeon Lieutenant J. P. Morton, Indian Medical Service, by the Secretary of State, Surgeon Major General Sir W. A. Mackinnon K C B, Director General Army Medical Staff, on appointment as Honorary Surgeon to the Queen, by the Adjutant-General, Surgeon P. M. May, R N, by the Medical Director General of the Navy, Surgeon E. T. Meagher, R N, by

the Medical Director General of the Navy, Surgeon Major T. H. Parke, Army Medical Staff, on promotion, by the Director General Army Medical Staff, Sir W. Stokes, M.D., on appointment as Surgeon in Ordinary to Her Majesty in Ireland, by the Lord Chamberlain, Surgeon Lieutenant N. Tyacke, by the Director General Army Medical Staff, Surgeon Lieutenant A. F. Tyrrell, Army Medical Staff, by Lieutenant-General Sir E. Wood, V.C., G.C.B., G.C.M.G., Surgeon Captain C. R. Tyrrell, Army Medical Staff, by Lieutenant-General Sir E. Wood, V.C., G.C.B., G.C.M.G., Surgeon H. E. Tomlinson, R.N., by the Medical Director General of the Navy, and Surgeon Lieutenant C. E. Williams, Indian Medical Service, by the Secretary of State.

UNIVERSITY OF OXFORD—On Tuesday the honorary degree of M.A. was conferred in Convocation on Mr. John Scott Haldane, M.B. Edin., assistant in the physiological department of the University Museum. On the same day the members of Convocation were engaged in discussing a proposal to request the Radcliffe Infirmary authorities to repay the £500 which had been granted in 1869 as a contribution towards the erection of fever wards. It was contended that, the wards having been recently closed, the members of the University would no longer have the accommodation thus provided. The Master of University College, as treasurer of the infirmary, said the closing of the wards was necessitated by disciplinary difficulties and by the erection of a City hospital for the reception of infectious diseases. Professor Pelham said the University had for twenty years enjoyed the benefit of the arrangement with the Radcliffe Infirmary, and it would be incredibly mean on the part of the University to withdraw the grant. The proposal was thrown out by 61 votes to 49.

PRESENTATION TO DR. W. SEDGWICK SAUNDERS—The Master of the Broderers Company (Dr. J. L. H. Langdon Down), the Wardens and the Court of Assistants assembled at the Albion, Aldersgate-street, on Monday, to pay a tribute of esteem to the late Master (Dr. W. Sedgwick Saunders, Medical Officer of Health for the City of London). The presentation took the shape of a beautifully illuminated address, artistic in colour and design. The Master, in making the presentation, said Dr. Sedgwick Saunders had occupied the position as Master of the Broderers Company for four years, and had done so with great usefulness, courtesy and distinction. The clerk of the company read an address which spoke of the high esteem in which Dr. Sedgwick Saunders was held by the Court and of the value of the services which he had conferred on the Company as well as on the citizens of London in general. Dr. Sedgwick Saunders, in accepting the gift, expressed his satisfaction that a gentleman occupying so distinguished a position in his profession should have made the presentation.

DISPROPORTIONATE STIPENDS OF POOR-LAW MEDICAL OFFICERS—At the weekly meeting of the guardians of the Strand Union, on Tuesday night, Mr. James Willing, jun., proposed that the salary of Mr. Jones, medical officer of the workhouse at Edmonton, be increased from £150 to £175 per annum, and pointed out in his speech the disproportions between the stipends paid to their medical officers by several metropolitan unions and boards of guardians and the numbers of the patients whom they had to attend in the different establishments. In Brentford Workhouse for professional attendance upon 570 inmates the medical officer's remuneration was £150 a year, Hampstead, 314 patients, £130, Homerton, 683, £140, Paddington, 623, £148, Westminster, 645, £150, Edmonton Local Workhouse, 480, £150, Holborn, 1331, £250, and the Strand, with 2852 juvenile and adult inmates, £150 a year! These figures were, in his opinion, eloquently expressive of the justice and necessity for the very moderate increase he now asked the Board to make in the annual stipend of their medical officer whose salary when compared with other metropolitan and suburban unions and establishments, was far from commensurate with the necessarily onerous and responsible duties he had to perform amongst such a large number of sick poor. The subject had been under consideration twelve months ago, when it was agreed to give Mr. Jones an increment of £25 a year in his salary, but on that occasion the Local Government Board suggested that it should take the form of a gratuity and not as an augmentation of his stipend. Mr. Dodson seconded the resolution which was supported by other guardians, who expressed the opinion that Mr. Jones was not sufficiently remunerated for his services in the workhouse schools and other establishments of a large and populous district like that of the Strand, especially when it

was remembered that in the neighbouring Poor Law Union of Westminster, with one-fourth less in number of people to attend, the medical officer received the same salary as Mr. Jones, £150 a year. The motion was carried unanimously.

NOTES IN PARLIAMENT

In the House of Commons a Bill for the Sanitary Registration of Dwelling houses, Schools, Hospitals, Factories, Lodging houses, and other buildings has been brought in by Mr. Martin Sir A. Borthwick, Dr. Cameron, Dr. Farquharson and Mr. Isaacson. The Bill is to come into operation on Jan. 1st, 1894. The local authorities, charged with the administration of the Public Health Acts, are to become sanitary registration authorities under this Act, who are to severally appoint a sanitary registrar. Each authority of the kind specified is to issue notices to owners or occupiers in its district, informing them of the provisions of the Bill, and that they may cause to be deposited with the authority a certificate setting forth that the sanitary arrangements are satisfactory. The Local Government Board or other responsible body is empowered to issue licences to members of associations concerned with sanitary science and to grant certificates of competency in sanitary practice. After the passing of this Bill it shall be unlawful for any building newly erected to be let or occupied until the sanitary arrangements have been duly certified. The term for which the certificate shall be regarded as valid shall be five years. The sanitary registration authority is to decide what buildings are being used as schools, colleges &c. within the meaning of the Bill. Finally the new Bill is not to interfere in any way with the Public Health Acts and with the powers possessed by local authorities in respect of public health.

Medical Officers of Health and Private Practise

On Monday Dr. Farquharson will question the Secretary for Scotland (Sir George Trevelyan) as to the truth of the report that he is about to rescind the rule laid down by his predecessor, that county medical officers of health in Scotland are debarred from engaging in private practice.—Dr. Farquharson will appeal to the right hon. gentleman not to interrupt the working of the rule until he has instituted an ample inquiry and satisfied himself as to the wisdom of the course with which he is credited.

Infectious Diseases Bill.

In the House of Lords on the 10th inst. Lord Thring moved the second reading of this Bill. He said isolation in cases of infectious diseases was impossible in the majority of cases amongst the poor. Hospitals, therefore, were absolutely necessary, and they should be maintained at the public expense. Under this Bill which would not extend to Scotland, Ireland, or the County of London every county council must, under certain conditions, provide an infectious diseases hospital.—Lord Monkswell said the Local Government Board were thoroughly in accord with the object sought to be attained by the Bill—viz. the provision of increased accommodation for the isolation of infectious disease. The formation of hospital districts would be facilitated by the proposals set forth in the Bill which was then read a second time.

Prohibitory Liquor Laws.

On the 13th inst. the Earl of Wemyss asked if Her Majesty's Government would take steps to obtain information regarding the present working of the liquor laws in Canada and the United States in continuation of papers already presented to Parliament.—The Earl of Rosebery said the Secretary for the Colonies had authorized him to say that the request should be attended to.

The Tottenham Fever Hospital.

On the 9th inst. Mr. Howard asked the Parliamentary Secretary to the Local Government Board whether he could say if any and what decision had been come to by the Board with reference to the application of the Metropolitan Asylums Board to extend the time for the reception of patients in the temporary fever hospital at St. Ann's-road, Tottenham.—Mr. Fowler, President of the Board, replied that he had given in instructions to hold a public inquiry with reference to the proposal of the Managers of the metropolitan asylum district that the land in question should be permanently appropriated as a site for a fever hospital.

The Opium Traffic.

On this subject a question was put in the House of Commons by Sir M. Stewart as to whether it was the intention of the Government to bring in a Bill to regulate the traffic in opium.—Mr. Chiststone said though no doubt a strong sentiment existed in the minds of an important section of the public on the matter he was unable to hold out a promise of legislation upon it during the present session. A question was also put by General Goldsborough on the subject which elicited from Sir E. Grey (speaking on behalf of Mr. G. Russell) a reply similar to the above with the additional statement that the Ministry did not intend to request the Government of India to place the sale of opium in that country under the restrictions which apply to the sale of the drug at home.

Tuberculosis.

Mr. William Whitelaw asked the President of the Local Government Board how many carcasses of home bred cattle were condemned on account of tuberculosis during last year.—Mr. Fowler said he had no information as to the number of carcasses of cattle which were condemned by justices on account of tuberculosis during last year.

Sweating.

Colonel Howard Vincent has given notice of a motion favouring the House of Commons to express the opinion that it is the duty of the Government in all Government contracts to make provision against the

evils of sweating and to make every effort to secure the payment of such wages as are generally accepted as current in each trade for competent workmen.

Myopia in School Children.

On the 10th inst. Mr R Wallace, in reference to a statement which had been made in a newspaper to the effect that short-sightedness in school children is greatly on the increase asked if he would inquire whether there was ground for the belief that the conditions of school life were favourable to such increase.—Mr Acland said the Education Department was doing its best to remove some of the alleged causes of the above named defect. Amongst such causes might be mentioned insufficient ventilation and lighting and the use of badly printed books. Inquiries had also been addressed to some of the largest school boards with regard to the effects on the progress of tuition of unwholesome and insufficient food. He proposed to make further inquiry into the question of defective vision in schools.

Regent's Canal Dock.

Mr S. Wallace asked if the attention of the President of the Local Government Board had been drawn to the insanitary condition of the Regent's Canal Dock.—Mr H Fowler replied in the affirmative and had no doubt that proceedings would be taken to abate any nuisance which on investigation shall have been found to be palpable and remediable.

The Case of Surgeon Major Briggs.

On the 11th inst. Mr Lockwood, on the motion to go into Committee of Supply on the Army Estimates called attention to the case of Surgeon Major Briggs, and moved for a select committee to inquire into the refusal to reinstate that officer. The hon. gentleman went fully into the case the particulars of which have already been published and need not here be repeated. The great obstacle to the reinstatement of Mr Briggs was, in view of the military authorities, the publication of a letter in the public press in which he brought certain charges against his superior officer and which letter he declined to withdraw.—Mr Campbell Bannerman recounted the circumstances of the case and explained the reasons why the military authorities had acted as they had done.—Dr Farquharson whilst admitting that Mr Briggs was not free from blame in the matter, thought he had had rather hard measure served out to him.—Mr Lockwood expressed great satisfaction at the remarks of the Secretary of War, and stated on behalf of Mr Briggs that that gentleman was willing to express regret for the letter, and had asked leave to withdraw it.—Mr Campbell Bannerman then said he was gratified to receive that announcement and that he was quite ready to say that that would be done which on the same terms and conditions would have been done in July or August last—viz., the reinstatement of Mr Briggs.

Foot-and-Mouth Disease.

In reply to a question put by Mr Brookfield Mr Gardner said he had received a memorial from the Rye Cattle Market Company asking for a renewal of their licence to hold their usual fortnightly market. The measures taken to cope with the outbreak of foot and mouth disease at Guestling would he hoped prove effectual, and in that case it would be possible very soon to relax the existing restrictions.

Patent Medicines.

On the 13th inst. Mr Frye asked the Home Secretary what was proposed to be done with the penalties imposed upon persons convicted of selling patent medicines containing poisons and whether the Government were prepared to bring in a Bill to amend the Pharmacy Act of 1868 so as to include stamped proprietary medicines.—Mr Asquith said 'patent medicines' containing scheduled poisons were not exempt from the provisions of the Pharmacy Act, 1868, which provides that penalties shall be recovered by the Registrar of the Pharmaceutical Society. From official communications which had been received it would appear to be undesirable that further facilities should be given for the sale of proprietary medicines. As at present advised he was not prepared to propose legislation on the matter.

Child and Female Labour in India.

On the 14th inst. Sir J Gorst called attention to this subject by a question addressed to Mr G Russell who in reply said that the new Factory Law in India presented to Parliament in 1891 extends the principles of the Berlin Conference to the employment of women and children in factories, and is being enforced throughout British India.

The Employment of Unqualified Practitioners.

In the House of Commons on Thursday Mr Bousfield asked the Secretary of State for the Home Department whether he was aware that large numbers of unqualified persons habitually practised as medical men or apothecaries or assistants thereof in London and other populous places whether the only power of preventing such persons from so practising was vested in the Society of Apothecaries under the Act 55 Geo III c. 194 except in cases where such persons use titles prohibited by 'The Medical Act 1858' s. 40 whether the Society of Apothecaries had ceased to use their powers under their Act for many years, and whether he was prepared to consider the advisability of conferring powers similar to those possessed by the Society of Apothecaries upon the General Medical Council, or whether he could suggest any other method of checking such unqualified practitioners.—Mr Asquith said I am not aware of neither have I the means of ascertaining the extent to which unqualified persons habitually practise as medical men, or apothecaries or assistants thereof in London and other populous places. The only power of preventing such persons from so practising is vested in the Society of Apothecaries and that only so far as practice as an apothecary is concerned. I am informed that the Society of Apothecaries have not ceased to use the powers conferred upon them by their Act. I am not prepared to propose any legislation on the subject.—Mr Bousfield. When did the Society last exercise its powers?—Mr Asquith. I cannot say.

Soldiers' Rations.

Major Rasch asked the Secretary of State for War whether he could state what changes had been introduced into soldiers' messing and rations at Aldershot in order to provide for a proper breakfast, dinner and supper.—Mr Campbell Bannerman replied that the changes were too numerous and minute to be stated in answer to a question but a memorandum and appendices had been prepared and the hon. and gallant member might see them.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column are invited to forward it to THE LANCET Office directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.

BARNES, G., L.R.C.P. Edin., M.R.C.S., has been reappointed Medical Officer of Health for the Chard Urban Sanitary District.
BEVERIDGE, A. T. G., M.B. C.M. Aberd., has been reappointed Medical Officer Aberdeen Dispensary.
BROADHURST, H., M.R.C.S. L.R.C.P. Lond., has been appointed Resident Clinical Assistant to the St Marylebone Infirmary, vice G Thornton, M.D., resigned.
BRODRICK, C. C. L.R.C.P. L.R.O.S., L.M. Edin., has been reappointed Medical Officer of Health for the Tavistock Rural Sanitary District.
COLMAR, P. A., M.R.O.S. L.M.C.P. L.S.A. Lond., has been appointed Honorary Medical Officer to the Leovill District Hospital vice Garland, resigned, and also appointed Honorary Consulting Medical Officer and a Vice President.
DAVIDSON, J. MACKENZIE, M.B. C.M. Aberd., has been reappointed Ophthalmic Surgeon of the Aberdeen Hospital for Sick Children.
DE LESSERT, A. A. L.D.S. R.C.S. Irei., has been reappointed Dental Surgeon of the Aberdeen Hospital for Sick Children.
FROSSARD, E. E., L.R.C.P. Lond. M.R.C.S., has been appointed Medical Officer for the Bishop's Lydeard Sanitary District of the Taunton Union.
GARDEN, R. J., M.D. C.M. Aberd., has been reappointed Surgeon of the Aberdeen Hospital for Sick Children.
GLENNIE, J. A. R., M.B. C.M. Aberd., has been appointed Medical Officer for the employees of the Streets &c Department, under the Aberdeen Town Council.
GOODALL, J. K. L.R.C.P., L.M. L.R.C.S. Edin. has been reappointed Medical Officer of Health for the Whittington Urban Sanitary District.
GORDON JOHN, M.D. C.M. Aberd. has been reappointed Assistant Surgeon of the Aberdeen Hospital for Sick Children.
HIRST, G. S. M.B., Ch. M. Edin., has been appointed Deputy Public Vaccinator and Medical Officer for Bishopwearmouth West.
HOOLEY, ARTHUR, L.R.C.P. Edin., M.R.C.S., has been appointed a District Medical Officer for the Epsom Union.
HOW, A. B. L.R.C.P. Lond., M.R.C.S. has been appointed Medical Officer for the Stradbroke Sanitary District of the Horne Union.
KNOW, J. J. M.B. B.C. Camb., L.R.C.P. Lond. has been appointed Medical Officer for the Molesey Sanitary District of the Kingston Union, vice Skimming, resigned.
LAING, A. W. L.R.C.P. Lond. M.R.C.S. has been appointed Medical Officer for the Seventh Sanitary District of the Tonbridge Union.
LEVACK, J. R., M.B. C.M. Aberd. has been appointed Medical Officer for the employees of the Cleansing &c. Department under the Aberdeen Town Council.
MACGREGOR, A. M.D., C.M. Aberd., has been reappointed Assistant Physician of the Aberdeen Hospital for Sick Children.
MARNOCH, J. M.B. C.M. Aberd. has been appointed Medical Officer for the employees of the Gas Department, under the Aberdeen Town Council.
MURPHY, JAMES M. A. M.D. has been appointed Lecturer on Medical Jurisprudence in the University of Durham College of Medicine at Newcastle-on-Tyne, vice Fredk. Page, appointed Joint Lecturer on Surgery.
MYLES, T. M.B., B.S. Dub., has been appointed Medical Officer for the Ireley Sanitary District of the Wigton Union.
ROSE, GEORGE, M.B. C.M. D.P.H. Aberd. has been reappointed Chloroformist of the Aberdeen Hospital for Sick Children.
SHAW, W. W., M.R.C.S., has been appointed Medical Officer of the Workhouse of the Fylde Union.
STANSFIELD, T. E. K. M.B. C.M. Edin. has been appointed Senior Assistant Medical Officer to the London County Council's new Asylum at Claybury, Woodford Essex.
STEPHENSON, W. M.D. F.R.C.S. Edin. has been appointed Physician of the Aberdeen Hospital for Sick Children.
YEARLES, P. MACLEOD, M.R.O.S. L.R.C.P. Lond. has been appointed Honorary Surgeon to the Farringdon General Dispensary.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BOLTON INFIRMARY AND DISPENSARY.—Senior House Surgeon. Salary £120 per annum, with furnished apartments board and attendance.
BLACKBURN AND EAST LANCASHIRE INFIRMARY.—Junior House Surgeon. Salary £60 per annum, with board, lodging, washing &c.
BRIGHTON THROAT AND EAR HOSPITAL, 23 Queen's Road, Brighton.—House Surgeon (non resident). Salary at the rate of £20 per annum.
CHESHIRE COUNTY ASYLUM, Macclesfield.—Junior Assistant Medical Officer for three years. Salary £105 per annum rising to £125 by two yearly advances of £10. Board, lodging and washing.
EVELINA HOSPITAL FOR SICK CHILDREN, Southwark bridge-road, S.E.—Surgeon to Out-patients.
FLINTSHIRE DISPENSARY.—Resident House Surgeon. Salary £120 a year with furnished house rent and taxes free also coal light, water and cleaning or in lieu thereof £20 per annum.
GENERAL HOSPITAL, Birmingham.—Assistant Surgeon, for three years. Honorarium £100 per annum.
GENERAL HOSPITAL, Birmingham.—Pathologist (non resident). Salary £120 per annum.
GENERAL HOSPITAL, Birmingham.—Assistant House Surgeon, for six months. Residence board and washing provided.

GLAMORGANSHIRE AND MONTMOUTHSHIRE INFIRMARY Cardiff.—Assistant House Surgeon for six months. Board lodging and washing provided.

KINGSTON UNION.—Medical Officer for the Workhouse, Kingston-on-Thames. Salary £110 per annum. Apply to the Clerk to the Guardians, 10, St. James's-road Kingston-on-Thames.

LEITH HOSPITAL.—House Physician for six months. Salary at the rate of £50 a year with board in the hospital.

LEITH HOSPITAL.—House Surgeon, for six months. Salary at the rate of £50 a year with board in the hospital.

LEITH HOSPITAL.—Surgeon for the Out-door Department for six months. Salary at the rate of £50 a year, with board in the hospital.

LONDON HOSPITAL, Whitechapel, E.—Assistant Physician.

METROPOLITAN HOSPITAL, Kingsland road N.E.—House Physician for six months. Salary at the rate of £50 a year.

METROPOLITAN HOSPITAL, Kingsland road N.E.—Dental Surgeon.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Albany Memorial), Queen square Bloomsbury.—Physician for out-patients.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Albany Memorial), Queen square Bloomsbury.—Registrar and Pathologist.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Albany Memorial), Queen square, Bloomsbury.—Assistant Physician.

POSTPRÆCT GENERAL DISPENSARY AND ACCIDENT WARD.—Resident Medical Officer. Salary £150 per annum, with furnished rooms fire lights and attendance.

RADCLIFFE INFIRMARY Oxford.—Surgeon, for two years. Salary £50 a year, with board lodging and washing.

RICHMOND DISTRICT ASYLUM, Dublin.—Third Assistant Medical Officer and Pathologist (unmarried).—Salary £100 per annum, with furnished apartments and other allowances valued collectively at £20 15s. 6d.

ROYAL HOSPITAL FOR CHILDREN AND WOMEN, Waterloo-bridge road.—Resident Medical Officer. Salary £70 per annum, with board lodging &c.

ROYAL HOSPITAL FOR SICK CHILDREN, Glasgow.—Assistant House Surgeon. Salary £30 with board and washing.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST City road E.C.—House Physician, for six months. Salary at the rate of £40 per annum, and board and lodging.

SEAMEN'S HOSPITAL SOCIETY, "DREADNOUGHT"—Senior and Junior House Surgeons for Branch Hospital Royal Victoria and Albert Dock. E. Salaries £75 and £50 per annum, with board and residence. Apply to the Secretary Seamen's Hospital Society Greenwich, S.E.

SHEFFIELD CHILDREN'S HOSPITAL, East-end Branch.—Resident House Surgeon. Salary £70 with board lodging and washing.

SOUTH DEVON AND EAST CORNWALL HOSPITAL, Plymouth.—Assistant Secretary. Salary £150 per annum.

ST PETER'S HOSPITAL FOR STONE AND URINARY DISEASES &c. Henrietta-street Covent-garden.—House Surgeon for six months. Honorarium 25 guineas, board lodging and washing.

SUNDERLAND INFIRMARY.—Honorary Surgeon.

UNIVERSITY COLLEGE, BRISTOL, MEDICAL SCHOOL.—Medical Tutor. Stipend £125 per annum.

VICTORIA HOSPITAL FOR SICK CHILDREN Hull.—Resident Medical Officer. Salary £50 a year with board, rooms and washing.

WORCESTER GENERAL INFIRMARY.—House Surgeon for three years. Salary £100 per annum with board and residence.

WREKHAM INFIRMARY AND DISPENSARY.—House Surgeon. Salary £85 per annum, with furnished rooms board gas, coal and attendance.

Births, Marriages and Deaths.

BIRTHS.

LIVERMORE.—On March 7th at Holmwood, Stapleton hall road, the wife of William Livermore M.R.C.S. and L.R.C.P. of a son.

MASON.—On March 8th at Oakwood Walton-on-Thames the wife of Arthur H. Mason, M.R.C.S. L.R.C.P. Lond. of a son.

ROWELL.—On March 8th at East Rudham Norfolk the wife of Herbert Ellis Rowell, L.R.C.P. Lond. M.R.C.S. Eng. of a son.

SANDERS.—On March 13th, at Edinburgh the wife of Gordon Sanders M.B. M.R.C.P. Edin. of a daughter.

SHORE.—On March 11th, at St. Bartholomew's Hospital the wife of T. W. Shore M.D. of a daughter.

MARRIAGE.

STALKARTT-FURNES.—On March 1st at St. Mary's Willesden Surgeon Captain Charles Edward Grey Stalkartt, son of the late John Stalkartt, of Seetulpore Chaprath to Margaret Joanna, second daughter of G. Furnes of Roundwood House and Croft Longstone.

DEATHS.

BROTHERTON.—On March 11th at Sydney House Yerbury road, Holloway. Mary Ann, the beloved wife of the late William Henry Brotherton, Surgeon, of Graham House Cambridge road, E. aged 59.

GOSFORD.—On March 12th at 107 Arundel Avenue Liverpool S. William Austin Gosford, L.R.C.P. & S. Edin. L.F.P.S. Glasg. aged 41.

THOMAS.—On Jan. 25th at Blackwood Adelaide S. Australia, John Davies Thomas, M.D. Lond., F.R.C.S. Eng. aged 43 years.

WIGON.—On the 25th ult. at St. Margaret's Bay, near Dover Thomas Carter Wigg M.D. in his 71th year.

Medical Diary for the ensuing Week.

Monday, March 20.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M., Fridays and Saturdays, at the same hour.

ST. BARTHOLOMEW'S HOSPITAL.—Operations 1.30 P.M., and on Tuesday, Wednesday, Friday, and Saturday at the same hour.

ST. MARK'S HOSPITAL.—Operations 2 P.M. Tuesday 2.30 P.M.

ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 2.30 P.M. Friday 2 P.M.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, daily at 10 A.M.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.

CHELSEA HOSPITAL FOR WOMEN.—Operations, 2 P.M. Thursday 2 P.M.

HOSPITAL FOR WOMEN SOHO-SQUARE.—Operations, 2 P.M. and on Thursday at the same hour.

METROPOLITAN FREE HOSPITAL.—Operations 2 P.M.

ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.

CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.

UNIVERSITY COLLEGE HOSPITAL.—Ear and Throat Department, 9 A.M., Thursday 9 A.M. Eye Department 2 P.M.

THROAT HOSPITAL (Golden sq.).—5 P.M. Dr. Greville MacDonald Empyema of Antrum.

MEDICAL SOCIETY OF LONDON.—8.30 P.M. Dr. G. H. Savage Symptoms of Mental Dissolution.—Dr. F. Warner Constitutional Differences between Boys and Girls and their Relation to Educational Requirements.

Tuesday, March 21.

GUY'S HOSPITAL.—Operations 1.30 P.M. and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.

CANCER HOSPITAL, BROMPTON.—Operations 2 P.M., Saturday, 2 P.M.

WESTMINSTER HOSPITAL.—Operations 2 P.M.

WEST LONDON HOSPITAL.—Operations 2.30 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Skin Department, 1.45 Saturday 9.15.

ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations Monday 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electro-therapeutics same day 2 P.M.

ROYAL INSTITUTION.—3 P.M. Prof. V. Horsley The Brain.

ROYAL COLLEGE OF PHYSICIANS.—5 P.M. Dr. C. Theodore Williams. Aero-therapeutics in Lung Diseases. (Lumleian Lecture.)

PATHOLOGICAL SOCIETY OF LONDON.—Mr. G. Stoker A Nasal Growth. Dr. E. Klein The Anti-choleraic Vaccination, an Experimental Critique. Card Specimens.—Mr. C. Slater (for Dr. Beaven Bake) The Organs of a Guinea pig inoculated from the Lungs of Lepers. Dr. Lee Dickinson (1) Stenosis of the L-trachea caused by dilatation of the Left Auricle (2) Aortic Aneurysm bursting into the Left Bronchus, (3) Simple Gastric Ulcer unusually situated.

Wednesday, March 22.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.

MIDDLESEX HOSPITAL.—Operations, 1.30 P.M., Saturdays, 2 P.M. Obstetrical Operations Thursdays 2 P.M.

CHARING-CROSS HOSPITAL.—Operations, 3 P.M., and on Thursday and Friday at the same hour.

ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M. Saturday same hour.

LONDON HOSPITAL.—Operations 2 P.M., Thursday and Saturday, same hour.

ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations 2 P.M.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.

GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations 1.30 P.M. Dental Department, 9.30 A.M. Eye Department, 2 P.M.

ROYAL FREE HOSPITAL.—Operations, 2 P.M. and on Saturday.

CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.

THROAT HOSPITAL (Golden sq.).—5 P.M. Mr. F. G. Harvey Mastoid Operations.

HUNTERIAN SOCIETY.—8.30 P.M. Dr. G. Newton Pitt The Value of Venesection in the Treatment of Thoracic Aneurysm.—Mr. F. R. Humphreys Two cases of Cheyne-Stokes Respiration, with recovery. Dr. F. Charleswood Turner A case of Intestinal Obstruction.

Thursday, March 23.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations Friday 1.30 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M. Ear and Throat Department, 9 A.M. Eye Department, 2 P.M.

ROYAL COLLEGE OF PHYSICIANS.—5 P.M. Dr. C. Theodore Williams. Aero-therapeutics in Lung Diseases. (Lumleian Lecture.)

NEUROLOGICAL SOCIETY OF LONDON (20, Hanover-square).—8.30 P.M. Adjourned Discussion on the papers of Dr. Head and Dr. Sherrington.

Friday March 24.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Eye Department, 2 P.M.

LONDON SKIN HOSPITAL (40 Fitzroy sq. W.).—3 P.M. Dr. Sanctuary Eczema, its Treatment in connexion with other Diseases and General Review (Post-graduate Lecture.)

CANCER HOSPITAL (Fulham road S.W.).—4 P.M. Mr. W. H. Elam Epithelioma of the Jaw.

CLINICAL SOCIETY OF LONDON.—Living Specimens 4 P.M. Papers at 9 P.M.—Dr. Hale White Two exceptional cases of Peripheral Neuritis one Septicæmic, the other due to Lead Poisoning and presenting Unilateral Facial Paralysis and other rare symptoms.—Mr. A. W. Mayo Robson Infusion (or Transfusion) of Normal Saline Solution in Severe Shock.—Mr. H. Allingham A case of Gastro-enterostomy for Cancer of the Pyloric end of the Stomach.

Saturday, March 25.

UNIVERSITY COLLEGE HOSPITAL.—Operations 2 P.M., and Skin Department, 9.15 A.M.

METEOROLOGICAL READINGS

(Taken daily at 8.30 a.m. by Stewart's Instruments.)

THE LANCET Office, March 16th, 1893.

Date.	Barometer reduced to Sea Level and 32° F.	Dirac- tion of Wind.	Dry Bulb.	Wet Bulb.	Solar Radi- ation in Vacuo.	Max- imum Temp. Shade.	Min. Temp.	Rain fall.	Remarks at 8.30 A.M.
Mar 10	30.29	N W	43	40	57	54	40	—	Bright
" 11	30.35	W	41	39	91	56	37	—	Hazy
" 12	30.17	S.W.	49	45	103	63	40	—	Bright
" 13	29.73	S.W.	46	44	70	57	44	—	Hazy
" 14	29.76	S.W.	48	47	68	56	46	.01	Cloudy
" 15	29.82	W	50	48	74	56	47	—	Rainy
" 16	29.64	S.W.	50	47	90	55	40	.01	Cloudy

Notes, Short Comments & Answers to Correspondents.

EDITORIAL NOTICE

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET should be addressed "To the Publisher."

We cannot undertake to return MSS. not used.

PUBLISHER'S NOTICE

In order to facilitate the work of reference to the volumes of THE LANCET, we have arranged in the future to publish duplicate copies of the Index to each half yearly volume in a form in which they may be subsequently filed or bound together.

We have had a large number of duplicate copies of the Index to the last half-yearly volume printed, and those of our subscribers who may wish to be supplied with loose copies can obtain the same (without extra charge) on making application to the Publisher of THE LANCET.

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C. E. MATTHEWS, M.D.

Gore Farm Hospital, Dartford, March 14th, 1893.

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Meerut, Bengal, Feb 11th, 1893. Brigade-Surgeon Lieut. Col., A.M.S.

* Our correspondent might be able to obtain the information he requires from Surgeon Colonel Gore, Army Medical Staff.—Ed. L.

A. E. ALDRIDGE

During the week marked copies of the following newspapers have been received — Thompson's Kansas Journal, City Press & Interior Journal, Birmingham Daily Post & Gazette, Kentucky Times Courier Gazette, Manchester Guardian, Isle of Wight County Press, Barbary Guardian, Saturday Journal, Sunday Times, Border County Gazette, Land and Water Worker, Daily News, Edinburgh Evening Dispatch, The Freeman, London Freeman's Journal, St. James, Dundee Courier Free Press, Glasgow Chronicle, Times of India, Pioneer Mail, Weekly Free Press and Aberdeen Herald, Reading Mercury, Lincoln Journal, Northampton Mercury, Local Government Chronicle, Waikato Standard, Long Bay Post, Little Western Yorkshire Post, Daily Morning, Le Courrier de la Presse (Paris), Guy's Hospital Gazette, Liverpool Echo, Weekly News (Cork), The Age (Melbourne), Surrey Advertiser, West Essex Advertiser, Carmel Petitioner, Worcester Chronicle, North English Advertiser, Dorset Weekly Sun, West Wales Journal, Ennisville Gazette, Gloucestershire Times, Grosvenor Advertiser, Llanidloes Democrat, Fife & Perth Advertiser, Guardian, Post-Opinion, Redfern Times.

METEOROLOGICAL READINGS

(Taken daily at 8.30 a.m. by Steward's Instruments)

THE LANCET Office, March 16th, 1893.

Date.	Barometer reduced to Sea Level and 32° F.	Dir- ec- tion of Wind.	Dry Bulb.	Wet Bulb.	Solar Radi- ation in Vacuo.	Max- imum Temp. Shade.	Min. Temp.	Rain- fall.	Remarks at 8.30 A.M.
Mar 10	30.29	NW	43	40	67	54	40	--	Bright
" 11	30.35	W	41	39	91	56	37	--	Hazy
" 12	30.17	SW	49	45	103	63	40	--	Bright
" 13	29.73	SW	46	44	70	57	44	--	Hazy
" 14	29.76	SW	48	47	68	56	46	.01	Cloudy
" 15	29.82	W	50	48	74	56	47	--	Rainy
" 16	29.64	SW	50	47	80	55	46	.01	Cloudy

Notes, Short Comments & Answers to Correspondents.

EDITORIAL NOTICE

It is most important that communications relating to the Editorial business of THE LANCET should be addressed exclusively "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office

Lectures, original articles, and reports should be written on one side only of the paper

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub Editor"

Letters relating to the publication, sale and advertising departments of THE LANCET should be addressed "To the Publisher"

We cannot undertake to return MSS not used

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REPORT OF THE LANCET COMMISSION

APPOINTED TO INVESTIGATE THE SUBJECT OF THE

ADMINISTRATION OF CHLOROFORM

AND OTHER ANÆSTHETICS

FROM A CLINICAL STANDPOINT

It will be remembered that we, as the Editors of THE LANCET, appointed Dr. Lauder Branton as our representative on the Second Hyderabad Chloroform Commission which was formed to investigate the action of chloroform on the human organism so far as that could be ascertained by experimentation on living animals. We thought that it would be well to supplement the work of that Commission as far as possible by a consideration of the results arrived at by clinical observation. Our investigation into the relative safety of anæsthetics as usually administered to human beings was therefore commenced as soon as the Second Hyderabad Commission's report was received. The task, however, was found to be beset with so many difficulties and inherent delays that we were prevented from publishing the report until the present time. Such a mass of material reached us and the work of arranging and collating it has been of such an exacting and laborious nature that we have been compelled to delay the publication much longer than we had originally intended.

We wish to express our indebtedness to Dr. Dudley Buxton for undertaking the direction of the inquiry as our Commissioner, and for placing at our service the results of his large clinical experience and knowledge of the scientific bearings of the subject. It should, however, be distinctly understood that the report is purely a scientific record of facts which our Commissioner has studiously endeavoured to present without bias and without any reference to his own views on matters which are the subject of controversy.

METHODS OF COLLECTING INFORMATION

Referring to the sources whence the statistics, which we desire to bring under the notice of our readers, have been obtained, it will be remembered in the first place that we issued to the members of the profession a form, and asked the recipients to fill in particulars of their experience as regards anæsthetics.

The form desired information on the following points—
 (1) What anæsthetic do you usually employ, and how? (Apparatus?) Average number of times a year? Do you keep an accurate register? What class of cases (operation, midwifery &c.)? Can you give particulars of any deaths? Agents used? Apparatus? Nature of operation? Age sex and peculiarities of patient? Posture? How long under? Did heart or respiration stop first? If a post-mortem, particulars? Can you give particulars of any dangerous cases and means used for resuscitation? Please give particulars as above.
 Signed () Address () Qualifications and school ()

A form of larger size was in addition sent with a like request to each hospital of the United Kingdom containing more than ten beds. Further, this form, accompanied by a circular letter couched in the language of the country to which it was sent, was despatched to all the larger hospitals of the Continent as well as to India, America and the Colonies.

This form asked for information in the following way—
 Name of institution. Approximate number of times anæsthetics have been given during the past ten (1) years. Chloroform used and for what cases. Relative frequency (a) Ether and for what cases, (b) mixtures (name) and for what cases. Other anæsthetics. Deaths under anæsthetic, how many and under what anæsthetic. Particulars of death, sex, age of patient, operation, how much anæsthetic used, duration of administration &c., by whom given. Other par-

ticulars as to experience of institution as to relative dangers of anæsthetics (1) At operation, (2) after operation, and facts bearing on this question.

As, however, the records received in reply to these circulars for the most part bore reference to recent cases, these sources of information were supplemented by a careful search for particulars concerning dangerous and fatal cases under anæsthetics reported in the current professional and lay papers. The reports thus obtained were thoroughly sifted by collation of the various accounts, and, when possible, by reference to the reports tendered to us by medical men. As to the value of such narratives being lessened for want of the personal guarantee of accuracy of the details by the administrator, it should be borne in mind that in by far the largest number of cases the particulars were usually given on oath before a coroner's court, and, further, at any rate in the case of medical journals, were conveyed to the press not through newspaper clippings, but directly from the responsible administrator or surgeon. When this was not the case particulars were usually asked for and, when possible, obtained from the medical man interested in the case.

In order to arrive at a continuous series of cases from 1847 (the date of the first employment of chloroform as an anæsthetic) not only were the above sources of information used, but the records of Snow—a most valuable and carefully kept sequence—and those collected by the committee of the Royal Medical and Chirurgical Society, published in their Transactions in 1884 (vol. xlvii.), were laid under contribution and again collated with the records derived from the other sources.

The authorities of some of the large hospitals very courteously permitted our Commissioner to inspect their case-books and to extract cases from them which had not appeared in the circulated forms or in any published works. Further information was in this way also obtained concerning cases already recorded. The records supplied by the Registrar-General of Deaths further gave additional information of casualties under anæsthetics. It seems from reference to these tables that more deaths from anæsthetics are recorded by the Registrar-General than are to be found in any other published records or in the private records kept by some of the hospitals.

As regards Scotland, the present condition of the law as to inquiries into the circumstances of deaths under anæsthetics greatly interferes with accurate information being obtained upon this matter.

CLASSIFICATION OF CASES

In arranging the report we have found it necessary to deal with chloroform, ether, mixtures of anæsthetics, the less common forms of anæsthetics such as bromide of ethyl and nitrous oxide. The reports of cases have been divided into the following classes: (1) Deaths under and apparently due to an anæsthetic, (2) deaths under and remotely due to an anæsthetic, and (3) untoward cases—i.e., cases in which some mishap occurred which was not followed by fatal results, but which was directly or remotely due to the anæsthetics employed. To illustrate our meaning we may cite some illustrative cases.

1. A patient, after inhaling chloroform for five minutes and just before the beginning of the operation, suddenly turns pale, his respiration stops and in spite of all restorative measures he dies. Here, if the patient is completely under the anæsthetic, and if other causes of asphyxia are absent the death may fairly be ascribed as due to the anæsthetic, and would be classed in the first category.

2. If a patient passes through the narcosis and operation

Communications, Letters &c. have been received from—

- A.—Dr Winslow Anderson, Belfast, Dr A G Auld Glasgow, Surg Capt A R Aldridge Jubbulpore Mr Thos Arnold Devon, Messrs. Allen and Hanbury, London
- B.—Dr Brett, Watford Dr J M Barbour London, Dr W Bennett Manchester Mr A E Blades, Derby, Mr Robt. Barnes, Hants Mr Henry Blandy, Northampton Mr Haydn Brown, Guernsey, Mr J H. Brown, Chicago Miss Buxton Flint Mountain Miss Bullen, Balham Hill, Messrs Burroughs and Wellcome, London, Messrs. Bale and Sons London, Messrs. Brown, Want and Co, Folkestone Brighton Throat Hospital, Brunton, Shepherd's bush.
- C.—Dr A H Clemow, London, Dr J Michell Clarke, Bristol, Dr Wm. Calwell Belfast, Dr Carey Guernsey, Mr H Clarke London, Mr J B Curgenven Teddington, Mr G Carter, Ilkley Mr G T Colman, Cardiff, C, London Chichester Infirmary, Cushion Ventilating Sock Co, Cheshire County Asylum Macclesfield, City Mineral Water Co, Bangor Croton, London Consumption Hospital Ventnor College of Preceptors, Bloomsbury
- D.—Dr J H Davis Leicester, Mr W Drevitt, Kingston on Thames.
- E.—Messrs Evans, Sons and Co, Liverpool, E, London, Enquirer
- F.—Dr Hington Fox, London Mr George Foy Dublin Mr S J Fryer Bombay Mr S Faulkner Herefordshire, Flintshire Dispensary F L S, London Forcups, London.
- G.—Sir Henry V Gould London Dr C Godson Grosvenor street Miss Grace Gordon London, Messrs. Griffin and Co, London.
- H.—Mr Chas Hodgetts, Toronto, Mr Y Henry N S W Mr R Holmes Pontefract, Mr J Heywood Manchester Mr W Hillier Colchester Messrs Hertz and Collingwood, London Messrs. Humphreys, London High Shot House Twickenham, Health, Belfast
- I.—Mr Bret Ince, London, Messrs. A. and I Inglis, Glasgow, Iikobe
- J.—Mr G R. Jesse, Hanbury
- K.—Dr H S King Kensington, Dr James Kerr Manningham, Dr W Knott Middlesbrough, King's College, London
- L.—Mr H R. Lewis, London Mr F Lankester, London, Mr P Lamplough, Leamington, Messrs. Lloyd and Co, Leicester, Licensate Apothecary
- M.—Dr John McVail, Glasgow, Dr H Monckton, Tanbridge, Dr A. Money, Sydney N S W Dr A Mead, Suffolk Dr McDougall, Cannes Dr C R. Matthews, Gore Farm, Mr Wm. Marriott, London, Mr E S Medcalf, Hove, Messrs. D Mills and Sons Walworth, M R C S, M D Liverpool M B, London, Medicus Manchester, Medico, London.
- N.—Nurse, London.
- O.—Dr J Oldersham, Burton on Trent, Messrs. Oppenheimer Son and Co, London, Once Bitten, Twice Shy
- P.—Dr Leslie Phillips, Birmingham, Dr Jos Priestley, Leicester, Brigade-Surgeon Robt. Pringle, Blackheath Mr Chas. E. Paget, Salford, Mr E. Pooley, Manchester, Mr J J Pentland, Edinburgh Messrs Parke, Davis and Co, London.
- R.—Dr H G Rawdon, Liverpool Dr O K. Rawes Somerset, Mr Arnold Ryal Esher Miss Daisy Robbins London Registrar Co London, Radcliffe Infirmary, Oxford Royal Hospital for Women and Children, London, Registrar General, Queensland.
- S.—Dr Sutton, Clapham Dr S A. K. Strahan, Northampton Dr C. E. Soubly, Grimsby, Dr T D Savill London, Mr J Bland Sutton, London Mr F Sykes London Mr W R. H. Stewart, London, M Chas E Scragg London, Mr Watson Smith London, Mr D R. Steven, London Mr A. Stenhouse, Glasgow Miss E J Sloane, Philadelphia, Messrs. A F Sharp and Co Glasgow Sunderland Infirmary St. Luke's Hospital, London, S H, London
- T.—Dr John Tatham Manchester, Mr Lawson Tait, Birmingham, Dr J Taylor London Town Clerk, Worcester

V.—Prof Rudolf Virchow Berlin, Victoria Hospital, Hull, Victoria Carriage Works, London.

W.—Dr Wethered, London, Dr Woodward Worcester, Dr E T Wynne, West Brighton Dr H Walker, Egypt, Dr Watt, Fal

kirk Mr Frank Wright, Colchester, Mr Wyatt, Wingrave, London, Mr H White Manchester Messrs Willows, Francis and Butler, London, Wrexham Infirmary

Y.—York London.

Letters, each with enclosure, are also acknowledged from—

- A.—Dr J T Arlidge, Stoke-on Trent, Mr R. E. Archer, Oldham, Mr J B Aspland Soham, A. A., London, Avernus, London.
- B.—Dr Barrett West Bromwich, Dr F Bagshaw St. Leonards on Sea Dr H R. Bean, Wallsend N S W, Dr W A. Betts Liverpool Dr Brown Sheffield Mr J H Brown, Westgate-on-Sea, Mr W S Battiss Southsea, Mr J Barry Stockton on Tees, Mr H W Brazier, Aberdeen Mr J Bond, Leamington Messrs. Bentley and Son London, Bootle Borough Hospital, Brighton and Hove Dispensary
- C.—Dr J E Creswell, Suez Mr J Cochrane Greenock Mr H Collins Dockhead, Mr H J Caplon, Baywater, Mr F Cufande, Norwich, Madam Caplin London Messrs Carveth and Co, Toronto, The Copcice Notta, Castaldi Librazzi Brescin, Cheshire County Council College of State Medicine, Bloomsbury Cantab, London Clinical Hospital for Women, Manchester, Corinth, London.
- D.—Dr J Davis, Fulham Mr R. Davis, London, Mr A H. Dawes, London Mr F J Davies, Newport Mr C Dunderdale, Manchester, Mrs Danby, Lincoln, D P H, London, Dundee University College
- E.—Dr W R. Evans, Llanberis, 355 Edgware road.
- F.—Mr W Forbes Ilford, Final London, F B London, F C, Burton-on Trent.
- G.—Mr W Gosford Liverpool, Mr J Good Robertabridge, G M, London, Guest Hospital, Dudley, Graduate, London
- H.—Dr J Hunter Llnthgow, Mr W Howard, Attleborough Mr T F Hale Chesterfield Mrs Hiltch Hollington Miss Hooper, London, Messrs. Hewlett and Son, London.
- I.—Ignotus London, Ibis London, Isabel, London.
- J.—J G, Oxford.
- L.—Dr L. Lancaster, Grindleton, Dr P W Latham, Cambridge, Dr J M. Loughton, Enfield, Locum, Lincoln, Lex, London.
- M.—Mr W R. Mumford, London, Mr G Mann, Leith Mr H J Mureton, Wood green, Mr M Mackay Sheffield, Mr M S J Macmorran, London Mr K. McDonald, Newmarket, Mr F McDougall Runcorn, Messrs. Milton and Co, London, Milno, Medicus, Liverpool M R C S, L. R C P, London, Medical Society of London
- N.—Mr L. Nicholls, Bury St. Edmunds, Nurse, Tollington park.
- O.—Mr N M. Ogle, Cannon street.
- P.—Messrs. Pimm, Poultry Private Asylum, Market Lavington.
- R.—Dr Raynor Preston Dr W R. Botheroe, Notting hill Mr O Ricker, St. Petersburg, Royal Cornwall Infirmary, Truro, Rous Hospital, Newmarket, Russell Advertising Co, London.
- S.—Dr T W Shore London Dr W W Seymour Troy N Y, Mr H Saunders Cromer Mr C H. Sers, Peckham Mr Sykes, Barnsley, Messrs G and G Stern, London, Solus, London Student, London Sinapla, High Holborn, S P, London, Smith's Repository Brighton Sanitas Co, London, Surgeon, Liverpool, Strychnine, London
- T.—Mr T F Tracy Glasgow, Mr J Thin, Edinburgh Mrs. Tyte, Minchinhampton, Titcomb
- U.—Ubique, London
- W.—Dr Weatherbe Withernsea, Mr R. Wiskin, Harns hill Mr A. P. Watt, London, Messrs. Whitworth and Stuart, Manchester, Messrs Whitehead and Bros., London.
- Z.—Z Z. London.

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The cases recorded have not only occurred in hospitals, but the record takes account also of cases occurring in private practice. In attempting to deduce any conclusions from the tables from which the above list of localities from which deaths were reported has been compiled, the same difficulties have arisen as were mentioned in dealing with the subject of the influence of age and sex on mortality under chloroform. The extent of population, hospital accommodation, and the proportion of medical men and their facilities for operations enter largely into statistics of this kind as disturbing factors. Again, it must be assumed that the records of fatalities or dangerous cases would be more accurately kept and be more accessible in the larger European or American towns than, for example, in African or small outlying Canadian towns. The readiness with which chloroform is given in a London hospital is in marked contrast to what obtains in smaller towns, even in England, and still more so in remote towns elsewhere. Another disturbing factor is the unwillingness of some persons to record fatalities under chloroform. We have above also noticed the fact that in Scotland, where chloroform is so widely and extensively employed, few reliable sources of information exist of the deaths which result from its exhibition. It has, however, been thought advisable to introduce into the Report the above list of places as well as other tables and lists in the hope that they may afford a guide for further investigations both in the way of directing attention to statistics desirable, but at present inaccessible, and in discouraging a loss of time over equivocal arguments based upon unsatisfactory and fallacious premises.

In further reference to race and the influence of climate it must be admitted that there are no materials upon which to base any conclusive arguments. The only satisfactory way to deal with this question would be to compare—not 50,000 cases occurring in the practice of one surgeon in one climate with an equivalent number of cases of another surgeon in a country sufficiently remote to ensure differences of race, mode of life, of temperature and environment, but a sufficiently large number of cases in different countries occurring in the practice of a sufficient number of persons to eliminate individual failings or extra care in the administration of the anæsthetic. It would, for example, be valueless to institute a comparison between the individual practices of two surgeons, one of whom operated almost solely on cases of minor surgery, whilst the other was constantly called upon to deal with the graver and more prolonged procedures of surgery as called for in large and populous towns, especially those in which machinery accidents are rife.

METHODS EMPLOYED FOR ADMINISTERING CHLOROFORM

One point which appeared to our Commissioner to be of manifest importance in the inquiry was whether any relation could be shown to exist between particular methods of giving chloroform and accidents under its use. If, for example, one method could be shown to be frequently accompanied by such accidents, such occurrences might be taken as indicative of a possible fault in the method. On the other hand, it was recognised that the problem was complicated by the fact that, the methods not being employed with equal frequency those most generally in use might, by showing more deaths or accidents, appear—and of course fallaciously—to be the more unsafe. It was necessary to guard against this form of error and to make allowance for it. The sequel appears to show that the method employed has really little influence in determining the result. The cases were divided into

1. *Those in which no special form of inhaler was employed*—Under this heading the following modes of administration were specified

Chloroform poured on a handkerchief

- “ ” ” lint.
- “ ” ” a towel.
- “ ” ” a napkin.
- “ ” ” into an extemporised cone.
- “ ” ” a sponge.

In fewer instances the process is described as having been conducted by the “open method,” or chloroform given from a “coil of paper,” “cloths,” “compress,” and so on. The recorded deaths resulting from chloroform being administered without an inhaler are rather more than double those occurring when an inhaler is used, but from inquiries made at various hospitals and in private practice there is no doubt that the

exhibition of chloroform without the use of an inhaler is much more frequent than is the employment of a distinct mechanical contrivance such as Clover's or Junker's apparatus

2. *Deaths under chloroform when a specified apparatus (inhaler) is employed*—In the order of the frequency of deaths during their use, the following inhalers are specified

“Inhaler” (kind unspecified)	Clover's inhaler
Skinner's inhaler (a simple flannel mask stretched on a wire frame)	Bismarck's „
Snow's inhaler	Metal cone.
Junker's „	Guy's Hospital inhaler
	Morton's ether inhaler
	Weiss's apparatus

We have, however, no figures to show the number of times these inhalers are used, and, in the absence of these, there is no accurate basis for comparison in regard to their safety or danger. It appears that in some instances chloroform has, with fatal results, been given from an ether inhaler. The frequency of use of the above inhalers must be taken into account. Skinner's apparatus, from its simplicity and portability, is probably used very much more frequently than any other. Snow's and Clover's inhalers are seldom, if ever, employed at the present time. Skinner's, Junker's (in one of its several modifications) or some form of cone, containing a sponge or piece of lint, probably represent the inhalers at present in vogue in the order of their frequency of employment.

It is a remarkable fact that, in more than half the cases of fatalities reported to us, no mention is made of the method which was followed in giving the chloroform, and even when the apparatus or method is named no particulars are furnished indicating the manner in which the anæsthetic was exhibited. That such details are essential the following example will indicate. Case A “Open method”, chloroform “poured” on lint “after the manner of Syme,” who taught that plenty of the drug should be used. Case B “Open method”, chloroform “dropped” on lint after the manner advocated by the dosimetric school, who teach that by dropping chloroform literally *guttatim* on lint the utmost safety is ensured. Here two methods diametrically opposed in principle are described by the same phrase, “open method.” Each of these schools would hold the other responsible for the faulty character of their method for any mishap occurring during the chloroformisation.

CAUSES ASSIGNED FOR DEATH

In giving the causes which are stated to have occasioned death, care has been taken to present if not the exact words at least the exact sense of the words employed by the narrators of the cases. This has been done to avoid any bias which might unconsciously attribute results following upon well defined symptoms. A careful examination of the cases, both in the following abstracts and more especially in the cases given at length will show that in most instances the causes assigned are very complex and no very definite single cause is advanced by itself. In some few cases the causes alleged do not appear to correspond with the symptoms given, but even here strict attention has been given to the narrator's views, whilst attention is at the same time drawn to the discrepancy and an explanation offered. In drawing up this summary the greatest difficulty has arisen in many cases from the looseness and inadequacy of the published records. It has been necessary in some instances to place apparently similar cases under different headings when the causes assigned for death have been different, although the lesions have been similar. Thus, in one case death is attributed by the narrator to syncope, although it is stated that food was found in the *œnæpipe* which, it may be presumed, caused respiratory trouble, leading it may be, to syncope as an ultimate result. In drawing up the abstracts from the reports of cases these sources of error have been eliminated, as far as possible, by assigning the evident and immediate cause of death and not the remote one. In the case alluded to above no one would accept “syncope” as the true cause of death, except in the sense that dissolution must always be eventually associated with cessation of the heart's action. Of predisposing causes “Intemperance” and wasting diseases the existence of emphysema, pathological conditions of the heart and bloodvessels are those most noted. They really appear under two distinct headings. Intemperance may be noticed here, but the other conditions will be fully described later under the accounts of the necropsies held on persons dying under chloroform.

satisfactorily, but dies within a few hours from some cause, such as vomiting or bronchial irritation, the death is some times put down to the anæsthetic, but as such a cause could only act remotely it is classed in the report under the category of "remote deaths." The same remark applies to cases of renal trouble occurring some time subsequently to the use of ether.

3 If, while under an anæsthetic, the patient suddenly becomes faint or asphyxiated, and the condition be due directly or indirectly to the anæsthetic, the case is put into the category of "untoward cases," always provided the patient recovers. If other causes are at work besides the anæsthetic the case would be classed as "untoward case, remotely due to the anæsthetic."

The statistics as regards these cases have been so arranged as to reveal any similarities or differences occurring in private practice and hospital practice. Points of especial interest in the inquiry will be found to be the determination of the question of how far age and sex are factors in determining fatalities under anæsthetics. Another question of interest is the geographical distribution of these fatalities. Can the influence of race, climate and the conditions of life determined by these have anything to do with these fatalities? We have also dealt with the method of administration of the various anæsthetics. Regarding the causes assigned for death under chloroform, these include both *assumed pre disposing* causes for death—e.g., presence of intemperance or exhausting disease, as carcinoma, emphysema &c.—and *determining causes*, such as vomiting during the administration, paralysis of respiration, overdosage, or failure of the heart's action. The phenomena of the anæsthesia are grouped so as to bring out, as far as the records allowed us, the contrast between the respiratory and circulatory systems, statistics being furnished to show whether the heart or the respiration was reported as having failed first.

The fact of the patient having previously been subjected to an anæsthetic is next considered. This is followed by an account of the methods employed to resuscitate the patient. A table follows which gives all the operations during which a death took place as far as records have reached us, an attempt being made to arrange them so as to indicate whether any particular class of operations offers peculiar dangers. The post-mortem examinations when made and recorded are carefully summarised as to fact, no inferences being given.

We next proceed to consider the *nature of the operation*, or surgical procedure carried on at the time of death, and to make an inquiry as to whether the operation had any causal relation with the fatality.

PART I—CHLOROFORM

AGE AND SEX AS DETERMINING FACTORS.

Taking up these questions as they arise, we now proceed to endeavour to discover by means of our carefully collated figures obtained from the sources which we have mentioned whether age and sex have any determining influence on fatal cases under chloroform. We find that no age possesses immunity. Taking periods of five years between birth and the age of seventy five, the extremes reached by the statistics before us, we find the proportion between the sexes to be as follows—

Proportion of Fatalities of Males to Females	
Ages	Proportion Males. Females
1 to 5 years	7 to 2
5 to 10 "	19 to 5
10 to 15 "	15 to 6
15 to 20 "	equal
20 to 25 "	26 to 15
25 to 30 "	22 to 6
30 to 35 "	17 to 8
35 to 40 "	17 to 7
40 to 45 "	34 to 11
45 to 50 "	34 to 9
50 to 55 "	13 to 3
55 to 60 "	24 to 7
60 to 65 "	no females.
65 to 70 "	equal.
70 to 75 "	2 to 1

According to these figures, the greatest number of deaths in males appears to take place between the ages of twenty five and fifty, a period of life when men are most liable to injuries and surgical diseases. The fatalities of women are most frequent between the ages of twenty-one and forty five, a period which includes the epoch of parturition and the age at which operations for carcinoma are most commonly performed.

In drawing any conclusions from the above figures it must be carefully remembered that they only represent the proportion of deaths of males to females under chloroform, as reported to the Commission, and do not represent a proportion of deaths in an equal number of inhalations by males and females. Probably many more males are compelled to take chloroform for the performance of surgical operations arising from accidents than obtains in the case of women. Unfortunately, it is impossible for the Commission to do more than suggest this explanation of a seeming partial immunity for women, as until all cases of inhalation of chloroform are recorded and some thousands of records, including an equal number of the sexes, are compared and classified as above no reliable statistics will be procurable.

GEOGRAPHICAL DISTRIBUTION OF FATALITIES

Deaths are reported from all quarters of the globe, the following places being those from which reports have been received—

AFRICA.	AMERICA.	ASIA.
Mauritius. Egypt (Suez). Whitesea Colony).	(Cape) Hamilton (Ontario) City Toronto. Toronto General Hos Ancaster (Ontario) Dunville (Ontario) St. John's (New Bruns wick) Halifax (Nova Scotia). London (Ontario). New Brunswick. Quebec.	India. Burman. Burmah. Hyderabad. Japan, Yokohama.
Adelaide Brisbane Hamilton Melbourne Pentridge Ovens District. Burra. Sydney New Zealand Dunedin Provincial. Tasmania. Town	EUROPE. AUSTRIA. Gratz. Vienna. DENMARK. FRANCE Boulogne Bordeaux. Langres Lille Lyons. Orleans. Paris St. Malo GERMANY Berlin Bonn Munich Neustadt Strasburg Ulm PORTUGAL. Lisbon RUSSIA. Crimea Craew Poland Odessa. ENGLAND AND WALES Accrington Aldershot. Barrow in Furness Bath Birmingham. Birkenhead. Blackburn Bootle Bradford Bridgeford Brighton. Bristol Broadmoor Cambridge. Canterbury Cardiff Carlisle Chelmsford Chester Chipping Norton. Cloucester Cornwall. Croydon Cumberland Dawlish Derby Derbyshire Devonport. Doncaster Dorking. Dudley Epsom. Exeter Exmouth Gloucester	Goldbridge. Guilford Handsworth Hartshill. Hartlepool. Huddersfield. Hull Ipswich. Keighley Leeds Leicester Lincoln Liverpool Llanelli St. Helen's Long Eaton. London Woolwich Malden Malvern Wells Manchester Mildenhall Nelson New Brighton Newcastle Normanton Northampton. Norwich. Nottingham Oxford Peterborough. Plymouth. Plympton Preston. Quarry Bank. Rathfriland Reading Richmond. Rhyll Salford Sheffield Shrewsbury Smethwick. Southampton Stalybridge Stafford Stockport. Stoke Clemsland (Cornwall). Stroud Sunderland Swansea. Taunton Tavistock Thornbury (Bristol). Towcester Tunbridge Wells Turnstall (Hawley) Twickenham Witley Whitfield (Kent). Whitehaven Widneslow Winlaton (Newcastle) Wolverhampton Wrexham. York. IRELAND Belfast. Cavan Dublin. SCOTLAND Aberdeen Alloa Dundee Edinburgh Glasgow Govan. Inverness. Lasswade Melrose Pencilick

SYSCOPE (no particulars given)
 Alcoholism 1
 Asphyxia (very anæmic) 1
 Atheroma of coronary arteries, right heart thin, dilated heart, emphysema of lungs 1
 Brought on by excitement 1
 Epilepsy 1
 Feeble child 1
 Feeble patient 1
 Fright 1
 General feebleness 1
 9

SYSCOPE WITH HEART LESIONS

Associated with heart lesions 1
 Degeneration, mitral and aortic disease, valves diseased 1
 Disease of heart not further specified 1
 Diseased coronary arteries 1
 Diseased heart and lungs alcoholic, struggling 1
 Distension of right side of heart 1
 Fatty degeneration 20
 Alcoholic, syphilitic patient 1
 Excessive fatty degeneration 1
 Slight 1
 Dilated heart 38
 Dilated heart, struggling 1
 Dilated heart, thin atheromatous valves and arteries 1
 Diseased heart 1
 Kidneys diseased, drunkard 1
 Imperfect anaesthesia 1
 Lungs diseased 1
 Lungs oedematous and kidneys granular 1
 Struggling 2
 Thin walls 1
 Flabby 1
 Flabby and weak 1
 Malformation of heart kidney disease 1
 "Paralysis of nerves of heart 1
 Thin walls 1
 Thin walls lungs tuberculous, intemperate 1
 Imperfect anaesthesia (1-2) 1
 Kidneys diseased 1
 Lungs diseased 1
 (?) Operation—(ovariotomy) due to 2
 (?) Reflex 1
 Shock (emptying empyema) 1
 Shock from brain injury 1
 (?) Sitting up 2
 Struggling 2
 (?) Weakly (very) alcoholic 2
 Syncope 2
 Arteries disease of 20
 (?) Asphyxia (valvular disease) 1
 Heart, dilated thin walls 1
 Dilated thin walls, only one coronary artery diseased 1
 Diseased (aortic valvular) and dilated 4
 Diseased, and kidneys 1
 Enlarged 1
 "Fat on heart," diseased aorta 1
 Fatty degeneration 1
 Emphysema, bronchitis 1
 Heart slightly dilated 1
 Hypertrophied, emphysema 1
 Intemperate patient 1
 Kidney disease 1
 Soft heart 1
 Feeble, "too strong a dose 1
 Flabby heart 1
 Hypertrophied, emphysema 1
 Thin walls 1
 Thin walls, diseased arteries, dilated aorta 1
 Malignant disease 1
 (?) Overdose 1
 Weakly infant (lungs never properly inflated) 1
 Larynx, spasm of 1

RESPIRATORY TRACT (see also above)
 Lungs paralysis of ("fatty heart") 1
 Lungs tuberculous 1
 Lungs and pleura abscess consolidation 1
 Respiration obstruction to, by pharyngeal growth 1
 Respiratory centre paralysis of 1
 Respiratory muscles, heart dilated, albuminuria 2
 1

SHOCK.

Hæmorrhage 1
 Heart fatty, dilated 1
 Very feeble 1
 Not completely under the influence of the anæsthetic 2
 Leukæmic 1
 Reflex shock 1
 (?) Reflex shock 1
 Stomach, rupture of 1
 Subarachnoid hæmorrhage (see Brain) 1
 Tetanus 1
 Thrombosis of venous system 1
 Vomit entering air passages 2
 Vomiting veins in pia mater and viscera gorged 1
 (?) Valvular disease, heart pale, mitral thickening, aortic atheroma 1
 16

HEART FAILURE AND RESPIRATORY CESSATION

Owing to the grouping of the cause assigned with subsidiary or adjuvant causes of death, the table just given is less clear to a superficial inspection than would have been the case had one leading cause been assigned. To elucidate the point under consideration—viz., the cause of death—a further tabulation is offered which has been arrived at from such figures and statements as we have had at our disposal, in which the relative frequency of the heart failure and respiratory cessation is compared.

Of the 506 records of cases which have come under our notice in this connexion the pulse is stated by the person who reports the death to have failed first in 143 instances, while in 59 records the respiration is described as being primarily stopped, in 46 it is mentioned that the respiration and circulation (as judged by the pulse) ceased simultaneously, whilst in 26 the pulse probably, it is asserted, failed first, in 4 the respiration probably failed first, and in 12 they probably failed simultaneously, in 211 cases no record was given as to which failed first. The word "probably" needs some explanation, lest it should appear that an unscientific nomenclature had been adopted. In many of the records of cases the reporters have expressed their opinion, more or less strongly, that either the pulse or respiration ceased first or simultaneously. In those cases in which no direct and distinct affirmation was offered, we have used the qualifying word "probably," indicating it both in the tables and in the summary by the inserted note of interrogation, thus—(?)

Of the cases collected by the Committee of the Royal Medical and Chirurgical Society, out of 83 cases 26 are given in which the pulse failed first, 4 in which respiration failed first, 11 in which respiration and circulation failed simultaneously, 9 in which the pulse probably failed first, 2 in which the respiration probably failed first and 7 in which they probably failed simultaneously, while 24 cases had no record of these points. These results may be tabulated together with those derived from the records collected from the press, those obtained from private and hospital sources in response to THE LANCET inquiry form, together with those derived from the private statistics of hospitals.

	From the Medical and Chirurgical Reports,	Recorded Cases in Journals	THE LANCET Inquiry Hos. Private pital. practice.		Hospital Cases not included elsewhere	Total
Pulse failed first	26	143	5	2	2	183
Respiration failed first	4	57	7	2	—	73
Pulse and respiration failed simultaneously	11	46	1	—	—	58
Pulse probably failed first	9	20	—	2	7	46
Respiration probably failed first	2	4	—	—	1	7
Probably failed simultaneously	7	12	—	—	—	19
No record obtained	24	211	13	1	4	253

It thus appears that while it is stated that in 183 cases the pulse failed before respiration and in 44 more it probably did so—i.e. in 227 instances—in 73 for certain and probably in 7

PREDISPOSING CAUSES OF DEATH

Intemperance—It has been widely recognised that persons addicted to excesses in alcoholic liquors, take anæsthetics badly and run peculiar risks. In the cases reported in the press we find a definite record of intemperance in twenty-four males and five females and a doubtful record in three males. In the records sent to us from medical men of deaths occurring in private practice under chloroform, we find it existent in the cases of one male, two females, and in the equivalent list from hospital practice in three males, and in the records obtained from the private statistics kept in hospitals we find mention of one male. This gives a total of thirty-eight.

Wasting Diseases—The presence of carcinoma in nine cases is mentioned as having been a possibly predisposing cause of death from the enfeeblement it had engendered.

Emphysema—The existence of this condition, a presumably dangerous factor, is mentioned in twelve cases.

Vomiting—Vomiting during the operation is noted as having occurred eighteen times. There are several points of interest about this statement. First, vomiting shows either loading of the stomach before the administration of the anæsthetic—a procedure about the danger of which there can be no question, both from general shock and from the danger lest the vomit be sucked back into the air passages, and secondly, the probability that an insufficient quantity of the anæsthetic was given, and that the patient consequently suffered from the shock both of the operation and of the chloroform.

IMMEDIATE CAUSES OF DEATH

In the cases collected by the Royal Medical and Chirurgical Society and supplemented by Dr. Snow's records the results are grouped (1) under failure of respiration, (2) causes associated with cardiac failure, and contributing causes are added in brackets. In the following table, when a note of interrogation is added it means that the cases, although probably, as the records seem to show, instances of the particular lesion mentioned, yet, as the account shows, some doubt existed in the mind of the original reporter. Its meaning may be taken as an equivalent to the words "probably from overdose," "probably from syncope" &c, as the case may be. The following table gives the causes assigned for death—

Respiration, failure of	3
" " probably from overdose	3
(?) " " (probably)	20
" " holding breath	1
" " " (?) overdose	2
(?) " " (?) overdose	3
	32
Shock (?) syncope in pre-anæsthetic stage	4
" " " (?) incomplete anæsthesia	1
(?) " " " incomplete anæsthesia	5
" " " incomplete anæsthesia	5
Syncope	3
(?) Syncope	28
" incomplete anæsthesia	2
" (?) overdose	1
	49

CASES FROM REPORTS AND HOSPITAL RECORDS.

We next have to present the statistics furnished by the cases reported to us and those obtained from hospital registers and published reports. The causes assigned for death are arranged alphabetically.

Air in bloodvessels	1
Entrance of air into veins (lunatic)	1
Alcoholic coma	1
Anæmia (marked)	1
APOPLEXY	
Cerebral	1
" No necropsy	1
Meningeal	2

ASPHYXIA.

Failure of respiration	1
Abscess of lung, consolidation, extensive adhesions	1
Aneurysm pressing on trachea, blood entered air passages	1
Congestion of lungs	2
Emphysema causing failure of respiration	1
Epileptiform convulsion	1
Larynx, injury to, and air in blood passages	1
Syncope (heart thin walled, flabby, dilated, valvular incrustation)	1
Thyroid, enlargement of	1
Vomit in windpipe	1
	11

BRAIN

Abnormal state of, due to chloroform	1
Direct poisoning of nervous centres	1
Effusion of blood on, caused by vomiting	1
Venous congestion of	1
Subarachnoid hæmorrhage, struggling	1
Congestion of lungs	1
Convulsions (lunatic), fatty degeneration	1
Emphysema and collapse of lung	1
Exhaustion	1
In labour	1
	10

FAILURE OF RESPIRATION

From muscular spasm	2
Syncope	1
(?) Failure of respiration	2
	5

FAILURE OF RESPIRATION AND HEART

Aneurysm of innominate artery	1
Drunkard	1
Fear	1
Heart dilated, walls thin, lungs congested	1
Emphysema	1
Fat embolism, intemperate, anæmic	1
	6

HEART

Cancer in wall	1
Dilated, large flabby	1
Dilated	1
Distended, bronchitis, fatty kidneys	1
Diseased	5
Diseased heart and lungs	1
Failure, disease of heart, pericardium and arteries, insufficient anæsthesia	1
Fatty degeneration (no further particulars)	13
Fatty degeneration (with particulars as follows) —	
Anæsthetic, said to be due to	1
Bronchocele, food in stomach, drunkard	1
Dilated heart	1
Feeble, no organic disease	1
Flabby	1
Hypertrophied	1
Malformed	1
Over-distension, violent struggling	1
Paralysis of	6
Diseased heart	1
Emaciated subject	1
Atheromatous coronaries	1
Dilated heart	2
Enlarged heart, lungs emphysematous	1
Slight	1
Heart	3
(?) Incomplete anæsthesia	1
Reflex inhibition of heart	1
Pericardium, extensive adhesion	1
Spastic contraction of heart ("effect of chloroform on ganglionic nervous system")	1
Spastic contraction of heart (weakened by loss of blood)	1
	55

RESULTS OF POST-MORTEM EXAMINATIONS—continued

Hear, arteries &c.	Lungs and air passages.	Brain.	Kidneys.	Blood.
Diseased."	Diseased.	—	—	—
Diseased."	Diseased."	—	—	—
Fatty dilated coronary artery atheromatous.	Lungs adherent, emphysematous.	—	—	—
Engorged with blood.	Lungs tubercular	—	—	—
Arteries atheromatous.	Lungs congested.	—	—	—
Enlarged, flabby	Lungs infarcted.	—	—	—
Fatty	Lungs congested.	—	—	—
Right heart distended with blood heart poorly nourished.	—	—	—	—
Loaded with fat walls thin aorta dilated arteries atheromatous.	—	—	—	—
Very flabby and fatty (fatty degeneration).	—	—	—	Black.
—	—	—	—	Black and fluid.
Diseased."	Lungs diseased.	—	—	—
Lux and collapsed.	Lungs, adhesions.	—	—	—
Fatty aorta atheromatous.	—	—	Granular disease.	—
Enlarged.	—	—	—	—
"other disease"	—	—	—	—
Certain disease" (?)	—	—	—	—
—	Lung pleuritic adhesions abscess in right lung partial consolidation of base	—	—	—
Flabby	—	—	—	—
Fatty degenerated.	Lungs congested.	Congested	Granular	—
Fatty degeneration.	—	—	—	—
Dilated and hypertrophied.	Lungs congested	Congested.	—	—
Fatty degeneration.	Bronchocele involving left lobe of thyroid	—	—	—
Aneurysm of aorta.	Larynx flattened and dilated wounded.	—	—	—
Fatty degeneration.	—	—	—	—
—	—	Effusion of blood.	—	—
Heart dilated fatty	Lungs congested.	—	—	—
Fatty degeneration.	—	—	—	—
Hypertrophied.	—	—	—	—
Fatty degeneration.	—	—	—	—
Commencing fatty change.	Lungs emphysematous.	Congested.	Congested.	—
Fatty	—	—	—	—
Fatty degeneration.	Lungs congested.	—	—	—
—	Lungs never properly inflated."	—	—	—
Bubbles of air said to have been found in vessels of heart.	Bubbles of air said to have been found in vessels of lungs.	Bubbles of air said to have been found in the vessels of brain.	—	—
Extensive adhesions of pericardium	—	—	—	—
—	Lungs congested hepatised.	—	—	—
—	—	Brain softer than natural."	—	—
Enlarged, fatty	Lungs emphysematous.	—	—	—
Hypertrophied.	Extreme emphysema.	—	Congested.	—
Fatty degeneration.	—	—	—	—
Fatty	Lungs oedematous.	—	Granular	—
—	—	Arachnoid very opaque large effusion of blood	—	—
Flabby	—	—	—	—
Heart diseased."	—	—	—	—
Flabby	—	—	—	—
Fatty change.	Fibroid lungs.	—	—	—
Fatty degeneration.	—	—	—	—
—	Tumour of thyroid pressing on trachea.	—	—	—
—	Pseudo-membranous pleurisy "	—	—	—
Fatty degeneration.	Lungs congested.	—	—	—
"Exceedingly fatty"	—	—	—	—
Large flabby atheroma of coronary arteries	—	—	—	—
Fatty degeneration.	—	—	—	—
Fatty degeneration.	—	—	—	—

RESULTS OF POST MORTEM EXAMINATIONS.

Heart, arteries &c	Lungs and air passages.	Brain	Kidneys	Blood.
"Cardiac disease"	Congestion of lungs.	—	—	—
Heart fatty	Lungs congested, apoplectic clots, cedematous.	—	—	—
Heart large flabby, soft, ventricular wall thin, right-sided distension	Lungs engorged	—	—	Fluid.
—	Laryngeal tissues infiltrated	—	—	—
—	Lungs tubercular, engorged	—	—	—
Right cavity full of blood fluid	—	—	Left, pyelo-nephritis.	—
Fatty, wall thin, degenerated.	—	—	—	Fluid.
Enlarged, fatty	—	Congested.	Congested	Fluid.
Flabby, fatty	Lungs collapsed, congested	—	—	—
Extensively diseased	Lungs extensively diseased	—	—	—
Fatty degeneration	—	—	—	—
Fatty	—	—	—	—
Fatty	Lungs "unhealthy"	—	—	—
Fatty, flabby	—	—	—	—
Fatty	—	—	—	—
Fatty, flabby, deformed left ventricle hypertrophied.	Lungs small, gorged with blood, displaced upward by pressure and large liver	—	—	—
Fatty degeneration.	—	—	—	—
—	Lungs congested	—	—	—
Slight hypertrophy of left ventricle.	—	—	—	—
Fatty	—	—	—	—
Right distended with blood	Lungs congested	—	—	—
Fatty	—	Effusion between dura and pia mater and between the latter and arachnoid.	Congested degenerated.	—
Fatty	Lungs hypostatically congested	—	Fatty	—
Fatty degeneration.	Lungs congested.	Effusion of blood on dura.	Congested	—
—	—	Pia mater congested.	—	Fluid.
Fatty, degenerated (fatty degeneration).	—	Tubercle at base of brain	—	—
Right ventricle soft, flaccid, left contracted	Lungs congested.	—	—	—
'Very diseased'	—	—	—	—
"Diseased.	—	—	—	—
—	—	—	—	—
Enlarged (slight).	—	Venous congestion.	—	—
Enlarged, thin walls	—	Dura adherent, pia mater and arachnoid opaque.	—	—
Fatty	—	—	—	—
'Diseased'	—	—	—	—
Enlarged, flabby	Lungs emphysematous	—	—	—
Very fatty	—	—	—	—
Fatty degeneration, valvular disease	Lungs congested	—	Congested.	—
Enlarged, hypertrophied, granular degeneration.	Lungs full of frothy fluid.	—	—	—
Right side enormously distended, fatty degeneration	—	—	—	Fluid.
Valvular disease, loaded with fat also degeneration	—	—	Albuminoid.	—
Fatty, valves diseased	Lungs congested	—	—	—
Fatty degeneration	—	—	—	—
Flabby, fatty	—	—	—	—
Fatty degeneration	Lungs, patches of collapse	—	—	—
—	Lungs adherent, emphysema, lobular collapse.	—	—	—
Fatty	—	—	—	—
Slightly flaccid, fatty	—	—	Fatty	Thin and frothy
Dilated	—	Softened	Fatty	—
Right ventricle containing a notable quantity of air	—	—	—	—
Fatty, dilated.	Engorged lungs	—	—	—
Valvular disease of mitral and aortic	—	—	—	—
Hypertrophied and fatty	—	—	—	—
Hypertrophied and fatty	Lungs emphysematous.	—	—	—
Degeneration.	—	—	—	—

ABSTRACT OF

The Goulstonian Lectures

ON THE

CHEMICAL PHYSIOLOGY OF THE ANIMAL CELL

Delivered at the Royal College of Physicians on Tuesday, March 14th,

By W D HALLIBURTON, M.D.,
FRCP LOND, FRS,

PROFESSOR OF PHYSIOLOGY, KING'S COLLEGE, LONDON

LECTURE III.

THE COAGULATION OF THE BLOOD

[In commencing his last lecture Dr Halliburton expressed his indebtedness to his fellow worker Mr T G Brodie Demonstrator of Physiology at King's College, and referred to the researches of W L Dickinson, E H Hankin, Brücke, Hammarsten, Green, Ringer and Sainsbury, Arthus and Pagès, and proceeded at greater length to criticise the results obtained by Pekelharing as follows.]

The substances which have at various times received the names of fibrinoplastic substance, fibrin ferment, cell globulin β , serum fibrinogen, fibrinogen. A tissue-fibrinogen and so forth are all varieties of one substance, which is a nucleo-albumen, and, further, it is in all cases a nucleo-albumen which in coöperation with calcium compounds brings about coagulation in the blood. The question then arises, Does this definitely, once and for all, settle the long vexed subject of blood coagulation? I am afraid it does not—it helps us a little nearer the truth, but the final solution of the problem may be a long way off yet. The observations which have been made by Mr Brodie and myself were attempts to answer some of the points left undecided by Pekelharing's work, and I wish that it had fallen to my lot to announce that all the difficulties had disappeared, but as we went on what we found was that new and previously unsuspected difficulties made their appearance. I will first point out what I conceive to be the weak links in Pekelharing's chain of evidence.

1. The theory that "peptone" hinders coagulation because of its great affinity for calcium salts is a very tempting hypothesis. It is supported by the fact that injection of a soluble calcium salt counteracts its action. This fact we have confirmed. We used anaesthetised rabbits in our experiments and injected about 10 cc. of 10 per cent. "peptone" solution into the external jugular vein, after about a minute a small quantity of blood was withdrawn from the carotid artery, this took about twenty minutes to coagulate. Then 50 cc. of a 1 per cent solution of calcium chloride was injected, and another sample of blood withdrawn, this clotted in a few seconds. The same result was obtained when "leech extract" was used instead of peptone, leech extract probably owes its activity to a proteose and is much more effective in hindering coagulation in the case of the rabbit than commercial peptone. The analogy of "peptone" and soap, which has already been pointed out also lends support to Pekelharing's views. But I have heard the objection raised that other substances which undoubtedly have a great affinity for calcium do not act in this way and I have been asked whether potassium oxalate acts like peptone. We have put this to the test of experiment and have proved that the injection of a few cubic centimetres of a weak (0.4 per cent) solution of this salt renders the blood when it is subsequently drawn off very slow in coagulating. In one experiment a sample of blood, which was drawn off before the injection, clotted in less than a minute, after this injection another sample did not clot for seventeen minutes. We thus have an additional confirmation of Pekelharing's hypothesis.

2. The second difficulty may be put in the form of a question. Why do not nucleo-albumens cause coagulation to occur in extra vascular as readily as they do in intra vascular plasma? The amount of calcium salts is presumably

the same in both. I have tried a good many experiments with salted plasma, and found, like Pekelharing, that if the nucleo-albumen is previously gently warmed with a little calcium chloride solution it acts like fibrin ferment and causes a rapid formation of fibrin, calcium chloride alone does not produce this result. But if the treatment with calcium chloride is omitted the nucleo-albumen has little or no activity in this direction, it may even hinder the coagulation in comparison with control specimens of the same salted plasma which had been diluted with water. I feel quite unable to offer an adequate explanation of this difficulty.

3. If fibrin ferment behaves as Pekelharing considers its action differs from that of all other ferments with which we are familiar. The usual action of a ferment is to act as a water carrier, and, having given water to the substance on which it acts, splitting into new products takes place (hydrolysis). There is of course no reason why ferments should not act as calcium carriers, but if we include such an action we must either extend the meaning of the term fermentation or abandon the use of the word altogether in speaking of blood coagulation. Of all ferment actions that of rennet in causing milk to curdle is most nearly akin to blood clotting. This resemblance has been a matter of remark from the time of Andrew Buchanan onwards. In each case we have the conversion of a soluble into an insoluble proteid, and in each case the presence of a calcium salt is necessary. Hammarsten showed that the process of milk curdling consists of two distinct stages, and more recently Ringer has confirmed this observation. It appears to me quite probable that in fibrin formation there is a similar double process, the action of the calcium coming in at the end in causing the separation of the clot. But it is very difficult to prove or disprove this idea. As for milk it is possible to boil it without coagulating the proteid, and one can thus destroy the ferment. With blood plasma this is impossible, for the blood proteids are coagulated by heat and so one would destroy both ferment and fermentable substance. I shall, however, not pretend to be able to decide this question, sufficient data have not yet accumulated for a definite opinion to be pronounced one way or the other, and, therefore, I shall for the present retain the use of the conventional term "fibrin ferment."

4. The last difficulty standing in the way of our full acceptance of Pekelharing's theories is that it takes no cognisance of the part that carbonic acid plays in blood coagulation. Clinical evidence supports physiological experiments in that it is the venous blood which is most liable to be coagulated. We can hardly doubt from such evidence that either the quantity or more probably the tension of carbonic acid has an important influence in hindering or promoting coagulation. I must again confess myself unable to see the full bearing of such facts, and I also think that in the present state of our knowledge it would not be safe to attempt any theorising as to the way in which they are to be fitted into Pekelharing's hypothesis.

I may now pass to a more systematic account of the experiments which Mr Brodie and I have been making during the last two years, they are very numerous, and all I shall attempt is a summary of their chief results. They were commenced with the object of determining whether the nucleo-albumens obtained by the sodium chloride method had the same physiological action as the nucleo-albumens obtained by Wooldridge's acetic acid method and termed by him "tissue fibrinogens." The fact that both produce intra vascular coagulation formed part of the chain of evidence that the two materials were practically the same, upon which I dwelt in my second lecture. The next point taken up was whether the leucithin, which I regard as an impurity, but to which Wooldridge attached considerable importance, was really the active substance, or whether the nucleo-albumen itself produces the result.

Having shown by experiment that that substance produces its effect *in vivo* its leucithin whichever of the two methods is adopted for its preparation, the greater number of our subsequent experiments were performed with the material prepared by the sodium chloride method from the thymus. We adopted this method because it is more rapid and the results obtained were more certain. The material prepared by Wooldridge's method often produces no intra vascular clotting at all, this was recognised by Wooldridge himself and he spoke of it as the "negative phase" in his experiments because in the dog which was the animal he chiefly used the blood was not only free from clot but it clotted with tardiness after removal from the

¹ The term "peptone" includes the proteoses with which it is generally mixed.
No 3630

RESULTS OF POST MORTEM EXAMINATIONS—continued

Heart, arteries &c.	Lungs and air passages.	Brain.	Kidneys.	Blood.
—	Larynx injured, blood in trachea.	—	—	—
" Cardiac disease.	—	—	—	—
" Had disease of heart."	—	—	" Had disease of kidneys	—
" Heart disease "	" Old disease of ribs and pleura."	—	—	—
Fatty degeneration.	—	—	—	—
Overlaid with fat.	—	—	—	—
Fatty embollism.	—	—	—	—
—	Food in trachea.	—	—	—
Malformed	—	—	—	—
Dilated.	—	—	Granular	—
Fatty infiltration coronary arteries atheromatous	Lungs congested, cedematous.	—	—	—
Enlarged	—	—	—	—
Aneurysm of innominate	—	—	—	—
—	Tubercular lungs.	—	—	—
—	Chronic pneumonia.	—	Gumma in kidneys.	—
Fatty degeneration.	—	—	—	—
Fatty degeneration.	—	—	—	—
Fatty degeneration.	—	—	—	—
Fatty heart.	—	—	—	—
Fatty heart, aorta sacculated.	Emphysematous lungs.	—	—	—
" Edema of pericardium, slight mitral disease.	—	—	—	—
Flabby, thin.	—	—	—	—
—	Lungs emphysematous	—	—	—
—	Malignant growth in back of pharynx impeding respiration.	—	—	—
Fatty degeneration	—	—	—	—
Fatty degeneration.	—	—	—	—
Right heart dilated.	—	—	—	—
Very flabby	—	—	—	—
—	Adherent pleura.	—	—	—
Malformed.	—	—	' Extensive kidney disease "	—
Fatty degeneration	—	—	Fatty degeneration.	—
Fatty degeneration.	—	—	—	—
Fatty	—	—	—	—
Fatty degeneration	—	—	—	—
—	" Disease of lungs.	—	—	—
Thin.	Lungs tubercular	—	—	—
Fatty degeneration.	—	—	—	—
—	—	—	—	Leukæmia
—	Adherent pleura	—	—	—
Advanced fatty infiltration.	Right empyema, lower part of lungs gangrenous	—	—	—
Overlaid with fat.	Lungs emphysematous.	—	—	—
Dilated, thin walls.	—	—	—	—
Flabby, fatty	—	—	Granular	—
Fatty, left ventricle dilated.	—	—	—	—
—	Lungs, double pleurisy	—	—	—
Mitral and aortic incompetency	—	—	Cystic.	—
Fatty	Lungs congested cedematous, bronchitic	—	Fatty	—
Thin walls, fatty	—	—	—	—

We now conclude the portion of the first part of our Commission, which deals with fatalities under chloroform, with a complete tabulation of the cases which have been either reported to us or obtained from published accounts of such deaths. They are necessarily much abbreviated, but contain all the salient features of each case, and as far as possible in the narrator's own words

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Having shown by experiment that that substance produces its effect merely by its leuthin, whichever of the two methods is adopted for its preparation, the greater number of our subsequent experiments were performed with the material prepared by the sodium chloride method from the thrombus. We adopted this method because it is more rapid and the results obtained were more certain. The material prepared by Woolldridge's method often produces no intra-vascular clotting at all, this was recognised by Woolldridge himself and he spoke of it as the "negative phase" in his experiments, because in the dog which was the animal he chiefly used the blood was not only free from clot but it clotted with readiness after removal from the

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 No. 3833

RESULTS OF POST MORTEM EXAMINATIONS—*continued*

Heart, arteries &c	Lungs and air passages.	Brain.	Kidneys.	Blood.
—	Larynx injured, blood in trachea.	—	—	—
"Cardiac disease."	—	—	—	—
"Had disease of heart."	—	—	"Had disease of kidneys	—
"Heart disease"	"Old disease of ribs and pleura."	—	—	—
Fatty degeneration.	—	—	—	—
Overlaid with fat.	—	—	—	—
Fatty embolism.	—	—	—	—
—	Food in trachea.	—	—	—
Malformed	—	—	—	—
Dilated.	—	—	Granular	—
Fatty infiltration, coronary arteries atheromatous	Lungs congested, cedematous.	—	—	—
Enlarged	—	—	—	—
Aneurysm of innominate	—	—	—	—
—	Tubercular lungs.	—	—	—
—	Chronic pneumonia.	—	Gumma in kidneys	—
Fatty degeneration.	—	—	—	—
Fatty degeneration.	—	—	—	—
Fatty degeneration.	—	—	—	—
Fatty heart.	—	—	—	—
Fatty heart, aorta sacculated.	Emphysematous lungs.	—	—	—
"Edema of pericardium", slight mitral disease.	—	—	—	—
Flabby, thin.	—	—	—	—
—	Lungs emphysematous.	—	—	—
—	Malignant growth in back of pharynx impeding respiration.	—	—	—
Fatty degeneration	—	—	—	—
Fatty degeneration	—	—	—	—
Right heart dilated.	—	—	—	—
Very flabby	—	—	—	—
—	Adherent pleura.	—	—	—
Malformed.	—	—	Extensive kidney disease	—
Fatty degeneration.	—	—	Fatty degeneration.	—
Fatty degeneration.	—	—	—	—
Fatty	—	—	—	—
Fatty degeneration	—	—	—	—
—	"Disease of lungs."	—	—	—
Thin	Lungs tubercular	—	—	—
Fatty degeneration	—	—	—	—
—	—	—	—	—
—	Adherent pleura	—	—	—
Advanced fatty infiltration.	Right empyema lower part of lungs gangrenous	—	—	—
Overlaid with fat.	Lungs emphysematous.	—	—	—
Dilated, thin walls	—	—	—	—
Flabby, fatty	—	—	Granular	—
Fatty, left ventricle dilated.	—	—	—	—
—	Lungs, double pleurisy	—	—	—
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Fatty	Lungs congested cedematous, bronchitic	—	Fatty	—
Thin walls, fatty	—	—	—	—

We now conclude the portion of the first part of our Commission, which deals with fatalities under chloroform, with a complete tabulation of the cases which have been either reported to us or obtained from published accounts of such deaths. They are necessarily much abbreviated, but contain all the salient features of each case, and as far as possible in the narrator's own words.

an immediate primary result leucolysis or destruction of the white corpuscles, especially of the multi-nucleated ones. The reagents he found which acted in this way were—albumose, peptone, pepsin, nucleic acid, nuclein leech extract, pyrogallin, tuberculin, curare, urea, uric acid and sodium urate. Now Löwit is a strong supporter of Schmidt's views on the preponderating influence of disintegrated leucocytes in bringing about blood coagulation. At the same time he strongly contests Lillenfeld's view that the nuclei participate in the process. He therefore asks why it is that if all these reagents cause leucolysis they do not cause thrombosis, and concludes that what is wanting is the calcium. He accordingly injected calcium chloride either before or after the injection of these other substances and states that he never failed to produce intra-vascular clotting in this way. In our repetition of these experiments we have followed Löwit's directions very closely; we have not been through his entire list, but we have used Witte's peptone, Grübler's peptone, leech extract, curare, urea, uric acid and sodium urate. We have confirmed his results in so far that calcium chloride alone does not produce intra-vascular coagulation, the blood when shed, however, coagulates very rapidly. We found that the same result followed when the calcium chloride was used in conjunction with peptone, leech extract and the other substances just named. With one exception in some twenty experiments we never got a trace of intra-vascular clotting. The one exceptional case was when we used a peptone solution that had undergone putrefaction, and the result might therefore be attributed to the nucleo-albumen in the bacteria themselves. We, however, failed to repeat the experiment in other rabbits with the same solution. That introduces us to another difficulty we have met with—namely the idiosyncrasies of the rabbit tribe. A solution which produces coagulation in one animal may fail to do so in another and it appears that the dark-coloured rabbits are more prone to undergo intra-vascular coagulation than albinos. In connexion with these same experiments I may mention that we found that substances like leech extract which prevent blood coagulation are directly antagonised by solutions of nucleo-albumen, and after the injection of the first the latter still causes intra-vascular coagulation.

Our work, then, has not confirmed that of Löwit, and shows that something else besides leucolysis must occur in order to produce thrombosis. Wright has more recently found that extensive destruction of the leucocytes follows peptone injection. A possible objection to these observations is that the leucocytes may not be actually destroyed, but they run together and get packed away in some organ like the spleen. This view is confirmed by the fact that if one performs the experiment of allowing peptone solution to run into a drop of freshly drawn blood on a microscope slide no destruction of leucocytes is observable. But the phenomena of extra-vascular blood are often so different from what occurs in the vessels that it is not safe to draw inferences from one to the other. We must await further experiments before this matter can be considered settled.

To return now to a question which I have already mentioned—namely the so-called 'negative phase' which sometimes follows the injection of nucleo-albumen. It was first observed by Wooldridge, and more recently confirmed by Wright, that if the blood is not coagulated by the injection it undergoes clotting when shed with great slowness. Wright's hypothesis to explain this is that the nucleo-albumen injected consists of two parts, one the nuclein which produces the clotting and the other is a peptone-like substance which hinders clotting. The negative phase is explained by supposing that the peptone moiety is split off in the circulation and produces there the well known effects of the intra-vascular injection of 'peptone.' This is supported by the observation that in these animals 'peptone' is found in the urine, and further supported by the experiments of Pekelharing who demonstrated the existence of peptone in the blood under similar circumstances.

In a previous paper⁴ I urged that it was not proven that the 'peptone' actually originates from the foreign proteid injected, because the nucleo-albumens fail entirely to give any of the peptone or proteose reactions. I think it much more probable that the peptone originates from the disintegration of leucocytes. Peptonuria ordinarily occurs in suppurative diseases where there is a great deal of disintegration of leucocytes, and I thought one might obtain some light on the subject by the injection of non-proteid materials, such as

curare or urea, which produce leucolysis. In rabbits, however one seldom sees the negative phase, and perhaps our results differ from Wright's because he has chiefly used dogs. We have searched for peptone in blood and urine by Devoto's modification of the ammonium sulphate method, and in some cases by the use of the trichloroacetic acid method. This reagent precipitates all the proteids except proteoses and peptone. Our results are as follows: (1) After the injection of nucleo-albumen, peptone was never found either in the blood or urine, (2) There is no difficulty by either method of recognising "peptone" after intra-vascular injection of small quantities of that substance. (3) After the injection of non-proteid leucocytic agents there is also no "peptone" discoverable by Devoto's method. There were, however, in some cases traces formed by the trichloroacetic acid method after injection of curare and of calcium chloride. I must confess that these experiments do not throw much light on the subject, but as far as they go they tend to support the hypothesis that the "peptone" found by other observers originates rather from the destruction of leucocytes than from the foreign material introduced into the circulation.

Since writing the above, a paper has been sent to me by Lillenfeld,⁵ which bears on this same question. He takes much the same view of the matter as Wright. He calls the substances I have called nucleo-albumens nucleo-histons, on account of the supposed resemblance between the proteid moiety of the substance and "histon," the peptone-like material obtained from nuclei by Kossel. He lays it down as a general rule that substances which hinder intra-vascular coagulation do so either in virtue of the "histon" they contain or the histon they produce by the disintegration of leucocytes, and that substances which produce intra-vascular coagulation do so in virtue of the nuclein they contain or because they cause the liberation of nuclein by the disintegration of leucocytes. If both substances are liberated together the nuclein is the more powerful as a rule and produces coagulation in histon-plasma. From our own experiments I can fully confirm Lillenfeld's views as to the importance of nuclein. I do not regard it as at all necessary, however, to imagine that the nuclein must originate from the nucleus, as the cell protoplasm also contains nuclein in the form of nucleo-albumen. The blood platelets have long been known to have some important bearing on blood coagulation. If the clotting of a microscopic preparation of blood be watched, the fibrin strands are seen to start from groups of the platelets. What blood platelets are has been the subject of much discussion and innumerable theories. I have no wish to add another theory, but will be content with pointing out that the experiments I described on the influence of nucleo-albumens in destroying white corpuscles, and forming from them what look like platelets, favour the theory that these little bodies are the disintegrative products of the leucocytes. Lillenfeld takes the same view, and his micro-chemical method, which shows they are composed of a phosphorus-rich substance, and his further work,⁶ in which by gastric digestion he has separated them into nuclein and albumen adds strong confirmation to this idea. Thus we are brought back once more to the subject of the disintegration of leucocytes, and I will conclude what I have to say on the subject of blood coagulation by a few general remarks on that question.

It was Schmidt who originally taught the importance of the destruction of leucocytes as the main cause of coagulation. These corpuscles are exceedingly prone to undergo changes when exposed to altered conditions, but a considerable change has come over our notions on the subject since that view was first promulgated. Rauschenbach, one of Schmidt's pupils, recognising that numbers of corpuscles do not disintegrate, spoke of a leucocytes which are acted upon and disintegrated by the plasma when the blood is shed, and β leucocytes which remain unaltered. Some very remarkable experiments published within the last few months by Dr Sherrington,⁷ who has succeeded in keeping leucocytes alive outside the body for several weeks in oxalate plasma, have been very strongly against the idea that they are especially prone to disintegrate. The word 'disintegration' does not, however, mean complete destruction and disappearance of the corpuscles in question. It signifies merely retrograde changes that end in the death of the corpuscles. Haycraft regards these changes as being due to mechanical stimulation of living and naked protoplasm by foreign solid matter for if the fluid after being

⁵ Verhandlungen der Physiologischen Gesellschaft, Berlin, 1891, p. 16.

⁶ Chemisches Centralblatt, 1892, II. 82.
⁷ International Physiological Congress, Liège, 1892.

body I shall later have to return to this question of the "negative phase." Our failures to produce intra vascular coagulation by the nucleo albumen prepared by the sodium chloride method have been very few and are in part to be explained by the fact that the solution had been kept some days before it was used. Most solutions which are active when fresh lose their activity when kept. This difficulty we have now to a large extent obviated by rapidly drying the solution in a vacuum over sulphuric acid. The powdered substance, which contains both the proteid and the sodium carbonate used to dissolve it, is readily soluble in water. The solution is viscid, but after filtration it is perfectly clear and free from solid particles. In all our experiments we have paid attention to this point, all our solutions have been thoroughly freed from solid particles by filtration. I may perhaps now describe an experiment with its ordinary results. The animal, and we have used rabbits almost exclusively, is anaesthetised with ether and fixed in a holder in the usual way. The external jugular vein is exposed and a cannula inserted, through this the solution is injected and about 10 cc. of the solution (which would contain approximately 0.05 grammes of proteid) is usually sufficient to cause death. The animal dies within a few seconds, the respiration suddenly stops, there is no dyspnoea as a rule, but there may be a slight stretching movement. Another marked symptom is extreme exophthalmos and dilatation of the pupils. The post-mortem examination is performed as rapidly as possible and the thrombosis found is usually limited to the venous blood, but in many cases there is extensive clotting in the arteries also. We have not often found a clot in the portal vein. The heart is still beating, the right side full of dark clot, the left usually empty, or it may also contain clot, which however differs from that on the right side in being bright red. Death is thus evidently due to failure of respiration, and the question arises whether the respiratory centre is at fault or whether the primary cause is to be sought in the lungs. The sudden stoppage of respiration and the absence of dyspnoea point to the respiratory centre, and this is confirmed by the fact that the severance of both vagi makes no difference in the experimental result.

I must next pass to an entirely different series of experiments. I believe that our experimental methods are so far in advance of those of many other investigators in that the solutions we employed were perfectly clear, but we sought to purify the substance we employed still further. This was done by taking the nucleo albumen, grinding it up once more with sodium chloride and reprecipitating it by throwing it into excess of distilled water. This was repeated two or three times. The material obtained by twice repeating the process is absolutely free from lecithin and produces on injection the usual thrombosis, but if the material is still further purified it fails to produce any result whatever on injection, though the solution is still viscid, 200 cc. or more may be injected, and on killing the animal by asphyxia not a trace of coagulation is found anywhere. We have verified this very disappointing experiment half a dozen times and then sought for an explanation. Evidently in the process of purification some substance is removed from or added to the nucleo albumen, which in consequence loses its activity. We noticed that during the processes of repeated washing there was a considerable loss of material, the nucleo albumen collects as a scum on the surface, but if it is allowed to stand some passes into a condition of semi solution in the weak saline underneath it. Injections of this, however, led to the same negative result. On the supposition that purification had removed something from the nucleo albumen, we proceeded to investigate what that something was.

Our previous experiments had shown us that lecithin is not the active substance, and moreover the substance which after one or two washings causes thrombosis and that which after three or four fails to do so are both equally free from lecithin. The hot alcoholic or chloroformic extract of both contains absolutely no phosphorus. Is it then calcium? Again the answer is, No. Injection of the purified material plus calcium chloride is quite ineffectual in producing thrombosis, and analysis of the ash, both of the purified and the unpurified substance, is either entirely free from calcium or contains only imponderable traces. The only other alternative which suggested itself to us was whether purification had removed the nucleic acid. The proteids are substances which are prone to undergo intramolecular rearrangements, and it is quite possible that this occurs on frequent precipitation and solution. The idea that the nucleic acid is split off from the proteid proper

during these processes was by no means improbable, especially as Dr Starling called our attention to the fact that Wooldridge found that his "tissue fibrinogens" lost their activity after purification. Now, repeated treatment with acetic acid (which is Wooldridge's method) would perhaps result in displacing a weak acid like nucleic acid, and there is no *a priori* reason why repeated treatment with water and sodium chloride should not do the same. Accordingly we put the hypothesis to the test of experiment. We have not yet had time to perform many analyses, but so far the result has been again negative. The so-called pure material contains the same percentage of phosphorus as the active substance. If, therefore, we wish to avoid the unsatisfactory conclusion that what we have removed is an intangible and shadowy substance known as a ferment, it is necessary to fall back on the other hypothesis and consider whether in the process of purification we have added something to the nucleo albumen. A few days ago at the Physiological Society Dr Haycraft suggested that by the repeated use of salt we have obtained an inactive sodium chloride compound of the proteid. This will have to stand or fall by the test of analysis, but it appears to me to be a very probable explanation.

All observers are agreed, with the exception of Dr. Wooldridge, that these corpuscles play an important part in the coagulation process, and we can hardly doubt that the fibrin ferment or nucleo albumen which causes blood to clot when it is dried originates from the leucocytes. And here I would emphasise the importance of comparisons between vertebrate blood and the blood of the crustacea. Hardy¹ has recently shown that here certain corpuscles which he very appropriately designates the "explosive" corpuscles yield the fibrin ferment, and Griesbach² has accentuated this point by showing that agents which, like osmic acid, prevent the explosion of the corpuscles, lead to a loss of coagulability. Now it struck us on reading Pechelbarr's papers and on performing our own experiments that they did not definitely prove that the ferment is actually formed from the foreign proteid introduced into the circulation. It appeared quite possible that the ferment may, at any rate in part, originate from the disintegration of blood corpuscles within the blood stream. Buchner has devoted a great deal of study to the protective proteids or alexines. Like Doremberg, he finds that these substances are not merely bactericidal but also globulicidal, that is they produce not only disintegration of bacteria but of blood corpuscles also. Now that we know that the alexines are nucleo albumens, it appeared probable that their globulicidal properties would partly explain intravascular clotting. On the other hand, we know that substance-like distilled water, which produces extensive disintegration of the corpuscles, never cause thrombosis. Now, our solutions of nucleo albumen do produce extensive disintegration of corpuscles. Testing the matter on a slide with a drop of human blood, we saw that the red corpuscles were made irregular in shape and to a slight extent dissolved. The white corpuscles are broken up immediately and form first a mass of adherent particles, which then separate and look just like "Blutplättchen." But exactly the same result is obtained with solutions of the purified material which produce no thrombosis, and very nearly as extensive disintegration is produced by the sodium carbonate solution which we use as the solvent of the proteid. Counting experiments performed on rabbits led us to the same conclusion. Injection of the nucleo albumen produced a slight lackness of red corpuscles. This is evidenced also by the slight cakiness of the blood often seen. The loss of white corpuscles is much more marked, being from 90 to 100 per cent. The loss from injection of a corresponding volume (20 to 50 cc.) of sodium carbonate (5 per cent solution) alone is nearly as great—75 per cent. The loss always chiefly falls on the multi nucleated corpuscles. We have thus something more to reckon with than mere destruction of leucocytes, and we can hardly resist the conclusion that it is the foreign material introduced into the circulation that furnishes the active substance that produces thrombosis.

We should not have pursued the matter further if a remarkable series of papers by Löwit³ had not at this stage of our work fallen into our hands. He also has used rabbits in his experiments, and he finds that many reagents which, when intravenously injected, cause leucocytosis produce as

¹ Journal of Physiology vol. xiii, p. 105.

² Pflüger's Archiv i p 473

³ Studien zur Physiologie und Pathologie des Blutes und des Lymphs. By M. Löwit. Jena G. Fischer 1892.

of an agreeable disposition and an indomitable spirit of independence.

Present condition.—Her general configuration is stout and clumsy, her expression when speaking is intelligent and cheerful, otherwise (see Fig 2) heavy and dull. One is struck by the large size of her head and face, and also of her hands. Height, 5 ft 4 in., weight, 111 st.

Head and face.—The head is much larger than normal (see measurements below), the occipital protuberance is pronounced, the lambdoidal suture is well marked, but the other sutures and protuberances are not specially prominent, with the exception of the supra-orbital ridges which give a receding aspect to the brow. The hair is abundant dark brown and of normal quality, the ears are normal in size, the tissue perhaps is thickened, the complexion is pale, there are shallow horizontal wrinkles on the forehead. The eyelids are heavy, the nose is straight and large, with a slight upward curve near the tip, the alae are thick, the lips are thick, the lower one being heavy and hanging, the mucous membrane of the lips is normal, the lower jaw is large and the chin double, the angles of the inferior maxilla are more obtuse than normal, the lower teeth are in normal relation to the upper, the teeth are very bad and have been so since she was sixteen years of age—there are small gaps between them. There is a small metal plate in the upper jaw

FIG 2.



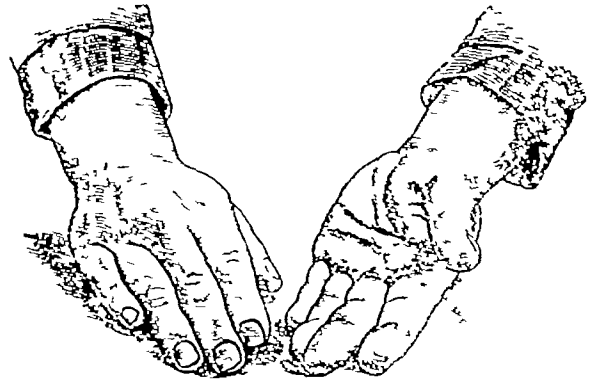
with four incisors and the left canine. This was put in eight years ago and suited, now it is loose and there is room for another tooth beside the right canine. The hard palate is flat and extensive, the soft palate and pharynx are flat and extensive in proportion. The tongue is broad (6 cm.) but not markedly thicker than it should be. It is slightly cracked and fissured and indented by the teeth at the edges, the patient feels as if it were uncomfortably big especially when speaking. She has had this feeling since she had an inflamed sore-throat three years ago. The voice is rather husky, she was a fairly good singer, but now the voice has deteriorated in quality and also in range of pitch (being lower by two notes), the pomum Adam is not prominent, the thyroid gland is larger than usual, both lobes being easily felt.

Trunk.—The antero-posterior curvature in the dorso-cervical region with its concavity to the front is very marked, also in the upper dorsal region there is slight right lateral curvature. The patient is very quickly tired if she tries to hold her head erect. The ribs are broad, the costal cartilages and sternum are normal, the circumference at the nipples is thirty-five inches and a half on expiration and thirty-seven inches on moderate inspiration, the pelvic bones seem normal, the breasts are poorly developed and have always been so. The cardiac dulness is normal, there is a small area of dulness the size

of a crown piece, behind the manubrium and the first left costal cartilage.

Upper extremities.—The clavicles are thick and long, the scapulae and humeri seem normal, the arms are well-formed down to the wrists, the wrists, and especially the hands are greatly enlarged, the hands are very inelegant (see Fig 3), being thick and broad, fulness is specially developed in the hypothenar eminences, the markings on the skin are normal, the veins on the back are easily seen, the thickening seems to involve the bones as well as the subcutaneous tissue, the lower ends of the radius and ulna participating, the fingers have a stumpy appearance, not tapering or only very slightly, as shown by measurement, the nails of the fingers are flattened out, slightly curved for-

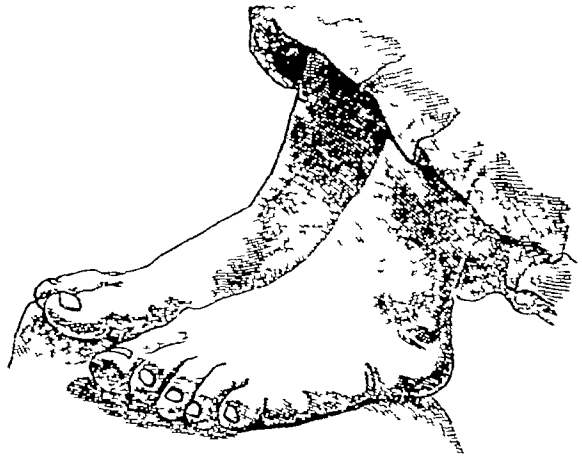
FIG 3



wards in the terminal third and much broader in proportion to length than is normal, the thumbnail is an ellipse with the long axis transverse, the nails used to crack unpleasantly. The outer layer peeling off, there is no abnormality in consistency during the past two years.

Lower extremities.—The right knee is occasionally painful, especially after kneeling, a little crackling is felt in the joint on flexion, recently there was an attack of housemaid's knee on the left side, the bones and other tissues down to the ankles are increased in bulk, the feet are comparable to the hands in size and clumsiness (Fig 4), there are no callosities.

FIG 4



and there is a general thickening and enlargement. The big toes gave much trouble till operated on in 1890, through ingrowth of the nails. This of course, was owing to the difficulty in getting large boots. The toes have a compressed appearance and would be square on section, the nails are like little ellipses with the long axis transverse and are embedded in the skin, there is a tendency to flat-footedness.

Muscular system.—This is to all appearance well developed, the grip of the hands is very much less than normal, the muscles at the elbow and knee seem about normal. Lifting heavy weights gives a sensation of strain in the upper extremities.

shed is surrounded by a fluid like oil coagulation is prevented. By watching the corpuscles under the microscope he has shown that they become flattened and irregular, they then lose their granules, or these retire to one part of the cell, leaving the rest clear. Such changes are better marked in the coarsely granular corpuscles than in the finely granular ones. He regards the shedding out of the fibrin ferment which accompanies these changes rather as a process of metabolism than of disintegration. I am inclined to adhere, however, to the old word disintegration, as what goes on is something different from what occurs in normal metabolic processes. As I pointed out some years ago, the disappearance of the granules from the cells inevitably suggests a comparison between the process and secretion, in which the shedding out of a ferment by secreting cells is accompanied by the disappearance of the granules which indicate the existence of its zymogen, or mother substance. This idea has since been verified by the discovery of the zymogen of fibrin ferment, and so strongly has the resemblance to secreting cells been recognised that some have gone so far as to speak of the coarsely granular or eosinophile cells as unicellular glands having a different origin and function from the neutrophile or finely granular cells which appear to be the principal phagocytes. Hankin⁸ has arrived at the conclusion that the alexines or protective proteids which confer bacteria killing power on blood serum originate from the eosinophile cells, and this bears upon our present question because of the similarity, or it may be identity, between fibrin ferment and the alexines. There is, however, evidence that cells which are not eosinophile may yield fibrin ferment. The explosive cells in crustacean blood are hyaline, not eosinophile. (Hardy.) According to Sherrington, too, the eosinophile cells are not fibrino-plastic. I think it would be premature to lay down any definite rule as to which group of corpuscles fibrin ferment comes from, and further, seeing that substances which produce coagulation can be obtained from cells as diverse as those in the thymus, brain, liver, testis and kidney, it seems very probable that both kinds of leucocytes in the blood may give rise to fibrin ferment, they both consist of protoplasm, and the main proteid constituent of all protoplasm is nuclealbumen.

During these lectures I have from time to time stepped aside from my subject proper in order to point out certain practical bearings which I considered to be of importance. I wish that I had had time, and still more the necessary experience, to have done so more fully. If however, any grains of usefulness are scattered through what I have said, there is no doubt that others will pick them up and work out their practical side. In connexion with blood coagulation and thrombosis I need not stop to point out the immense importance of a correct knowledge of this subject to the pathologist, and I will content myself with two remarks only on its practical aspects. The first of these is to point out the great resemblance between the phenomena observed in the animals in the experiments described and those cases of pulmonary thrombosis which are occasionally seen in the human subject. One can hardly doubt that here we have to deal with poisoning by the same material. Professor Gerald Leo was witnessing some of our experiments a few days since, and he described to me a case he had had in King's College Hospital.⁹ It was one of "rupture of the breast for cancer, and the wound was perfectly aseptic, but ten days after the operation, without any warning the patient died suddenly with great dyspnoea. Examination of the brain revealed no lesion, but at the necropsy a firm fibrous clot was drawn like a tree with its branches from the pulmonary artery. The dyspnoea in this and similar cases points to the cause of death in the lungs themselves rather than in the respiratory centre, this difference is easily explicable on the ground that the dose of poison enters the circulation more slowly than in our experiments where it is injected. The second practical point which I wish to emphasise is a word of warning. When I have seen animals die in a few seconds, as though by a lightning flash, after a dose of five cubic centimetres of this poison, which could not have contained more than a few centigrammes of the material, I feel very loth to urge that any practical use of such substances should be made in the human subject either for the stoppage of hæmorrhage or for the production of a clot in aneurysms. The cure would in such instances be worse than the disease.

A CASE OF ACROMEGALY

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THE subject of the following notes first came under the observation of Dr Alexander Campbell and myself in September, 1890, on account of ingrowth of nails on both her great toes. My description was taken down at that time, but, as it has recently been verified and slightly added to, I shall speak of her as she is now, merely premising that no alteration of any importance has occurred during the past two years. She is a domestic servant, single, aged twenty seven, and enjoyed good health, being strong and fit for her work till 1886. Her family history throws no light on the case. The mother is alive and healthy, of slight build, and below the medium size. The father died of paralysis five years ago, aged seventy. The maternal grandfather lived to be eighty years of age, the maternal grandmother died of "dropsy," aged fifty. The paternal grandparents died in old age. A sister and two brothers are alive and healthy, the youngest brother died of typhoid fever twelve years ago. From her personal history syphilis and alcoholism can be absolutely excluded, and her surroundings have always been favourable to health. Fig 1, engraved from a photograph taken in 1884

FIG 1



Engraved from a photograph taken in 1884 before onset of illness.*

shows her to have been then rather slim in build, with a bright expression, thin lips and other features and small well shaped hands. About the time of onset of her present illness, namely in 1886 she was subject to certain depressing emotions. In that year she observed that she became more easily fatigued, and in the course of a few months great physical changes occurred. Menstruation, which had begun at fourteen and been normal hitherto became scanty and in six months finally ceased. Her body became stouter, so that with her ordinary clothing breathing was greatly impeded. To get up from the kneeling posture she had sometimes to roll over on her side. Her face changed to such an extent that friends who had not seen her for some time failed to recognise her. The size of her gloves increased steadily from No 6½ to No 8 and her shoemaker was troubled with the difficulty of procuring "tops" remarking with somewhat ungallant candour that he had never known a woman to have so large a foot. The actual increase in the size is given as from No 4 to No 7. Profuse perspirations, violent headaches occipital and frontal and a feeling of stiffness as if she was encased in starch were amongst her troubles. The various changes seem to have been coincident, although the muscular weakness first attracted her own attention. In spite of her physical disability she managed to keep her "places" being possessed

* Centralblatt für Bacteriologie und Parasitenkunde, Bd. xii., Nos 22 and 23.

⁹ Many similar cases will be found in Sir J. Fayer's Clinical and Pathological Observations in India.

There is, however, one district which forms an important exception to this general statement, and proves that elevation is not the sole factor that determines the severity of a cholera epidemic. In the hilly province of Daghestan, which borders the Caspian Sea, the proportion of population attacked by the disease was higher than in any other district of the Caucasus. Further, in this province and in that of the Terek, lying adjacent on the north, cholera raged with greater violence than in any other part of Russia, European or Asiatic. From a comparison of the figures in the table with the position of the provinces on the map it will be clearly seen that the cholera epidemic was very much more intense in the eastern districts of the Caucasus than in the western. In the southern division of the country this difference was very marked. In the province of Daghestan and the government of Baku, lying on the east, the proportion of cases per 100,000 inhabitants was, in the first, 3911, in the second, 1593. In the government of Kutais, lying on the Black Sea littoral, the proportion was represented by the insignificant number of 6, whilst the intervening governments were affected in ratios varying from 726 in Tiflis to 1344 in Kars. The same gradation appears in the northern Caucasus. The numbers in the three districts, into which this part of the country is divided, were as follows. In the easterly province of the Terek and of Stavropol in every 100,000 inhabitants there were respectively 3383 and 2115 cases of cholera, whilst in the westerly province of the Kuban there were only 1911. This difference may have been partly due to the intensity of the epidemic becoming weaker as it travelled further, but it is not uninteresting to note that there is a considerable difference in level between the eastern and western coasts of the Caucasus, the whole country trending downwards from the Black Sea to the Caspian Sea. The average level of the Caspian Sea has been estimated to be 85.45 feet below the level of the Black Sea.² It would be asserting too much to say that in this difference in level is to be found the sole explanation of the difference in intensity of the cholera epidemic, but it is at least an interesting and suggestive coincidence if nothing more.

The climate of the Caucasus is most varied. Owing to the mountainous nature of a great part of the country almost every degree of temperature may be experienced by the traveller in simply passing from shore to shore. The heat in summer, particularly in the northern steppes, is often very great, and the cold in winter is frequently extreme. In many parts a difference of as much as 60° or 70° F. is observed between the average temperatures of the hottest and coldest months, whilst the range between the absolute maximum and minimum may be nearly twice as great. The inhabitants of the Caucasus are as varied as the climate. The country has been proverbial from the time of Pliny for its confusion of tongues. Great as is the number of races, it appears to be greater from the fact that every tribe is known by a different name to each of its numerous neighbouring tribes the names being thus multiplied many fold. A further confusion arises from the existence of many dialects in a single language, the Armenian alone being said to possess no less than twelve. The majority of the inhabitants of the mountainous regions is made up of Armenians, Georgians, Ossetians, Kurds, Turks, Turcomans, Tocherkesses, Tchetchentsy, and Kalmuck and Nogai Tartars, in addition to the Russian population that has settled there since the country came under the rule of the Czar. In the steppes the population consists almost entirely of Cossacks of the Terek and the Kuban. The larger number of these races lead a half settled, half nomadic life, occupied partly in agriculture, partly in pasturage, and partly, though now to an insignificant extent, in brigandage and robbery. Their social customs and their religious prejudices have probably each played their part in assisting the wide spread of the recent epidemic. I take their social customs first. Throughout the Caucasus there is no system of drainage, the "Persian" or "dead well" being the sole method in use for disposing of sewage matter. These, as described before, are very deep wells or holes in the ground, which are gradually filled with human excrement. The harmful effect of this system has been pointed out in the Annual Report of the Medical Department. The accumulation of such enormous masses of human excreta in the earth and the consequent pollution of the soil have gone so far, the report states, that a foul odour is observable in the basements of many houses and

in some ice cellars in towns where this system is in use. In the flat plains of the Northern Caucasus it is easy to understand how the wells or springs, which are the sole source of the water supply, may become contaminated by this method of disposal, or, rather, preservation of sewage.

The houses of most of the hill population are flat roofed *sallhi* or huts, badly built of wood, stone or clay, and in many cases very much more than half underground. On the high table lands throughout nearly the whole of Transcaucasia the Georgians, Tartars and Armenians live in the so-called *zemlianki* or underground "earth huts." Dwelling at a height of some thousand feet above the sea, where the thermometer in winter may fall to 30° or 40° below the Fahrenheit zero, such houses provide the greatest amount of warmth at the smallest cost. A short description of one of these dwellings, taken from the Journal of the Imperial Caucasian Medical Society, may be of interest. Each house always contains more than one room and may sometimes form a labyrinth of rooms connected by passages. The floor is generally about one sajene (seven feet) below the surface of the earth. The roof is about two feet above the surface and is covered with brushwood and then with a thick layer of earth. A few small openings exist in the roof for the admission of light and air, but in winter these are almost invariably closed at night to keep in the warmth. There is generally one door leading to the men's rooms and a second to those occupied by the women, who, as in all Mohammedan countries, live apart. In the centre of the establishment there is generally one large room devoted to the cattle, which share the same roof as their masters for at least six months in the year. In the living rooms there is generally a hearth in which dried cow dung is used as fuel. In such a house the Caucasian Highlander spends at least half the year, in an atmosphere that, to anyone not used to it, is quite intolerable. Heated by the fires and by the warmth of the cattle, almost unchanged by ventilation, polluted by the breath and by the exhalations from the bodies and from the excreta of many human beings and of a number of cattle, varying from units up to hundreds, the air becomes fouled to such an extent that it seems incredible that life can be supported. Dr. Uspenski, a Russian who was forced by stress of weather to seek the hospitality of the owner of one of these dwellings, relates that the atmosphere was so unbearable that, notwithstanding that a fearful snow-storm was raging outside, he was obliged to rise, mount his horse and face the weather as being the lesser evil of the two. The cattle suffer terribly from the confinement and when let out in the spring are little more than living skeletons, as the result of the darkness, want of exercise, scanty food and foul air. The soil must be no less foul than the air, the "dead well" receives the human excreta and the surface of the earth must be considerably polluted by the excreta of the animals, although these are carefully collected every day in order to serve as fuel. When it is added that the well which affords the sole water supply is usually under the same roof, it is obvious that to polluted air and polluted soil must be added polluted water. That people living in such surroundings were severely visited by the cholera epidemic is not surprising. If unhygienic domestic conditions seemed to invite the introduction of the cholera infection, religious prejudices were doubtless powerful aids in propagating it. The predominant religion in the Southern Caucasus is Mohammedanism, professed by 48 per cent of the inhabitants, members of the orthodox Greek Church form 29 per cent, Armenians 20 per cent., and the remainder is made up of Russian sectarians, Roman Catholics, Jews and followers of other faiths in insignificant numbers.

The fatalism of Mohammedans is proverbial and must have had much to do with the spread of cholera in a country where nearly half the population are followers of the Prophet, whilst their religious objections to seeking medical aid, their peculiar rites in disposal of the dead, and their occasional inflictions of self torture must have been powerful factors in disseminating the epidemic. Scarcely less fatalistic than the Mohammedan is the Russian sectarian. Of the Cossack population of the Northern Caucasus more than half belong to one or other of the numerous sects of the *Raskol* or Dissent. Many of them are descendants of dissenters exiled to the Caucasus by the Emperor Nicholas for refusing to disclaim their heretical opinions and subscribe to the Orthodox Church. Whilst some, as the Molokany and Dukhobortsy, are rationalistic in their tenets and live a quiet industrial life, others, as the Khlysty, are highly fanatical, their so-called services being in many cases merely disgusting exhibitions of sensuality. The prevailing disease in the Caucasus is malarial fever, but the cause of the greatest

¹ The Russian administrative terms "oblast" and "gubernia" are here rendered province and government respectively.
² This fact was established by the scientific expedition sent by the St. Petersburg Academy in the years 1836-37.

region and up the back of the neck, the general activity is greatly impaired, the gait is clumsy.

Nervous system.—The special senses are normal, with the exception of sight. Dr McGilivray kindly examined her eyes for me, and he gives the following exhaustive report: "Nov 14th, 1890.—The patient feels pain in the eyes, with frequent attacks of frontal headache, she complains of dimness of vision and great difficulty in reading, as the letters jumble up, she first noticed that her sight began to fail about a year after the onset of her present illness, up to that period her eyes had been perfectly well. There is slight hyperemia of the palpebral conjunctiva and thickening of the eyelids in both eyes, there is no exophthalmos, the pupils are normal in size and react well to light and accommodation, the movements of the eyeballs are normal except for a jerky rotatory nystagmus when the patient tries to look to the right and left, but less marked in the former direction, pressure backwards on the eyeballs conveys no cushion feeling to the fingers and causes no pain to the patient, tension is

normal. Vision Right and left eye = $\frac{6}{9}$ c. + 1 D cyl = $\frac{6}{5}$

She reads Jaeger 1 at eighteen centimetres with the right eye, and Jaeger 1 at twenty one centimetres with the left for a few seconds only. The range of accommodation is very limited. With the above correction the range of accommodation is improved. At twenty five centimetres there is marked insufficiency of convergence, there is no diplopia, the fields of vision are normal, as also are colour and light sense. Ophthalmoscopic examination shows no abnormality. Feb 10th, 1892.—The patient was re examined. There is no alteration in the above symptoms except that the patient thinks the vision is improving and the headaches are less frequent and not so severe. Spectacles were not prescribed."

General sensibility.—The patient experiences a sensation of numbness in the fingers in the morning, lasting from ten to thirty minutes. The fingers feel dead, but do not change colour. The sensation of touch is then greatly impaired or lost. On the outer side of the right thigh from above the knee to near the hip she experiences occasionally a tingling sensation, especially if tired after standing. Slight pressure causes a painful feeling at those times, but firm rubbing gives relief. The sensation is not that of "sleeping." She cannot bear tight bands about the body. She has, as noted in the history, been a martyr to headaches, but these have been much less severe during the past year and generally yield to antipyrin. She can go to sleep at any time, day or night. Since the onset of her illness she has been very nervous, being easily startled and being then affected with palpitation and a breaking out of perspiration. There is no mental deterioration.

Skin &c.—The skin is rather coarse. In the region of the neck there is a large number of small warts, varying in size from that of a pinhead to that of a millet seed (they seem to be simply cutaneous); perspiration is constant, especially in the palms of the hands and the soles of the feet (it has become rather worse during the past year), the appetite is normal, but temporarily affected by headaches, thirst is great, but the urine is normal in quantity and is free from sugar and albumen, the pulse is 60, regular, and of fair strength, the heart, lungs and other organs are normal.

Measurements in centimetres.—Circumference of head, 57.5 cm, occipito frontal diameter, 18.5 cm, bi parietal, 15 cm, bi mastoid, 11.5 cm. Length of ear, 6 cm. From the roots of the hair to the tip of the nose, 13 cm, of which the nose measured 6 cm. Breadth of nose at alae, 5 cm. Inferior maxilla from angle to angle, 21.5 cm., length of ascending ramus, 3.2 cm. Circumference of neck at the thyroid isthmus, 36.5 cm, length of the sternum 21 cm. Distance between anterior superior spines, 28 cm. The clavicle of the right arm, 15.5 cm, tip of acromion to point of the mid finger, 67 cm, circumference of arm at top 31 cm, at middle, 29 cm., above elbow, 26 cm., at elbow, 28 cm, circumference at mid forearm, 23 cm, at wrist, 18 cm, length of hand from lower wrist crease to tip of mid finger, 18.5 cm, circumference at metacarpo phalangeal joints, 23 cm., thumb length, 6.4 cm., circumference, 8 cm, index circumference at root 7.8 cm, at first joint, 7.8 cm, at second joint, 6.8 cm. Right lower limb. Length of femur, 45 cm, vertical diameter of patella, 6.5 cm, transverse diameter, 7.3 cm, circumference of knee, 37 cm, of calf, 37 cm, length of tibia, 35 cm, circumference round malleoli, 26 cm, over heel and front of ankle, 32.5 cm, at first metacarpo phalangeal joint, 23.5 cm, length of foot, 25.5 cm, circumference of great toe at root 9 cm, at nail, 9.5 cm.

Remarks.—The case is clearly one of acromegaly, typical

in its onset and its present aspect. The diagnosis could be made with positive certainty from the history alone, the alterations in fit of gloves, boots and tooth plate being conclusive. This patient is not so extreme a case as are many that have been described, the absence of prognathism to any great extent being of importance in allowing a natural expression to remain. The comparatively short duration of the malady and the present arrest of its progress are worthy of attention in this respect. It is easy to see how this disease remained unrecognised till Pierre Marie pointed out the features which distinguish it. Such a patient as the above goes on long enough satisfied with her friend's diagnosis that she is getting stout &c., simply taking medical advice on one or two common symptoms. Further, there is a misleading symmetry about the enlargements in most cases. The tongue, for example, is absolutely large and is indented by the teeth, but it lies fairly easily in the very capacious mouth. The facial part of the head is in proportion to the cranial, and the neck and trunk are correspondingly stout. The hands and feet again, whilst large, both absolutely and relatively, in comparison to the rest of the limbs, are, as Marie said in his original paper, in themselves regularly formed. Still, an attentive examination of their shape, especially the want of proportion between breadth and length and the "sausage" look of the fingers, makes one see that they would be unnatural even to a glintless. As the total number of cases of acromegaly as yet described is under fifty, I hope that the above record will have a certain value.

Airlie place, Dundee

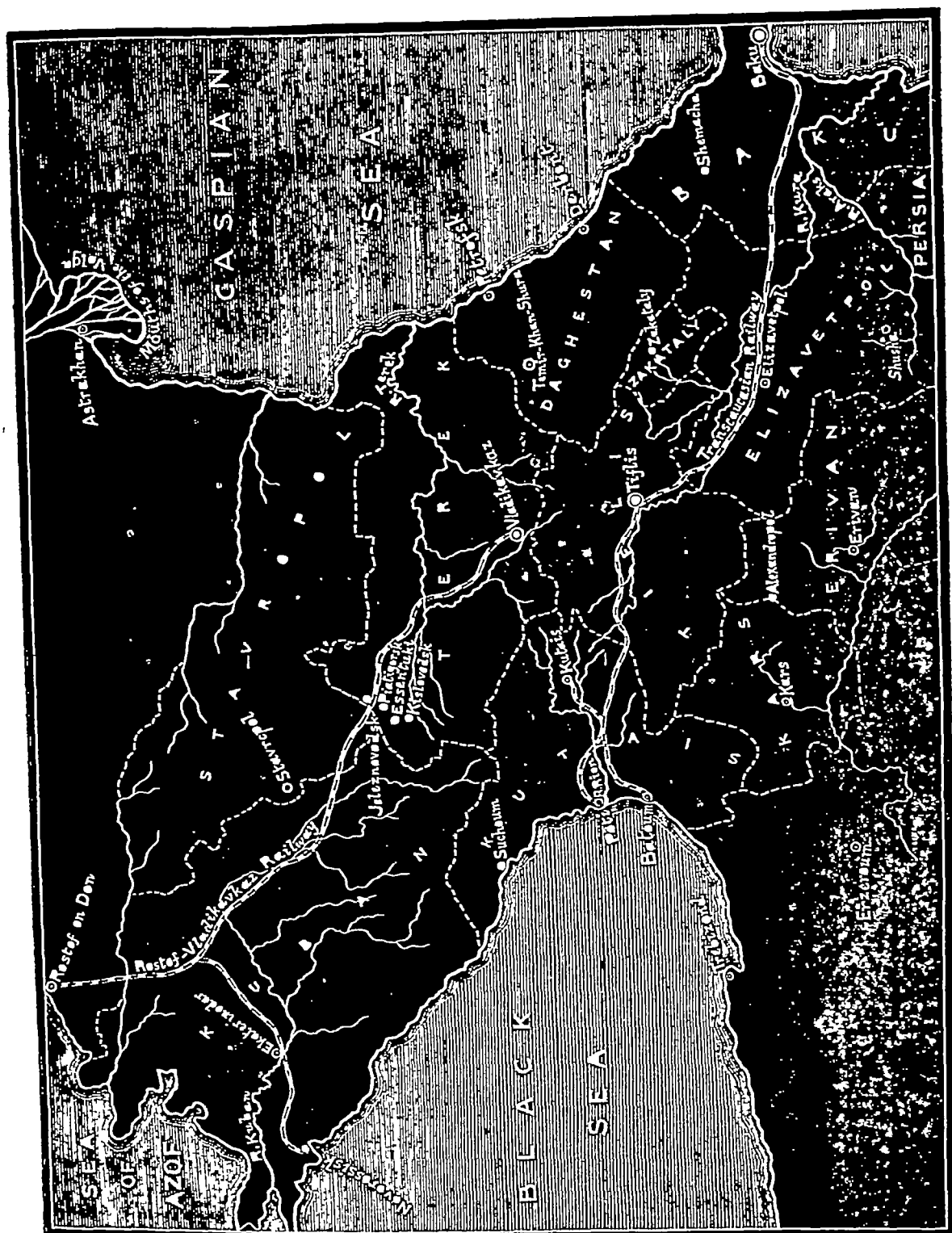
THE CHOLERA EPIDEMIC IN RUSSIA

BY FRANK CLEMON, M D EDIN &c

NO II.—IN THE CAUCASUS

GEOGRAPHICALLY the great mountain chain of the Caucasus is generally considered to be the dividing line between Asia and Europe, but administratively the whole of the Caucasus, including a considerable portion of the steppe lying to the north of the mountain chain, is included in Asiatic Russia. In the last article the cholera epidemic was traced throughout the Central Asian provinces and Siberia from its first introduction to Russian soil at Knochka. In the present it is proposed to deal with it in the Caucasus in a similar manner. The Caucasus occupying the stretch of country between the Black and the Caspian Seas has a superficial area but little smaller than that of France or Spain. It is continuous on the north with the country of the Don Cossacks, from which it is separated by two small rivers, whilst on the south another river—the Araks—forms the natural boundary between this part of Russia and Persia. The country is farther clearly divided into two parts, not only by an administrative division, but by marked geographical differences, which played an important part in affecting the relative intensity of the cholera epidemic in the two districts during the past summer. The Northern Caucasus is, for the most part, a flat but fertile steppe, watered by few and sluggish streams, and in part by artificial irrigation canals, but at its southern edge, as it approaches the mountainous region of the Southern Caucasus, the character of the country changes. It becomes sub-mountainous, with rapid streams flowing into the channels of the rivers Terek and Kuban. The Terek flows into the Caspian Sea, the Kuban into the Black Sea, neither receives any tributary from its northern bank, both being fed entirely by the mountain streams from the south. The Southern Caucasus, or Transcaucasia, is in many respects in marked contrast with the northern division of the country. Briefly, it consists of a series of immense mountain chains culminating in the peaks of Elbruz and Kazbek, and watered by innumerable rushing streams which mostly unite to form the channels of the River Kura, flowing eastward into the Caspian Sea and of the River Rion, which empties itself into the Black Sea. That elevation has an important influence in modifying the intensity of a cholera epidemic has been very generally admitted, and is to a great extent supported by the behaviour of the present epidemic in the two divisions of the Caucasus. In general terms the flat low lying plains of the Northern Caucasus were very much more severely visited than the high and mountainous regions of Transcaucasia. This is clearly seen from the figures given below. In the three northern provinces out of every 100 000 inhabitants 2390 were attacked by the disease, whilst in the southern only 1831 suffered.

MAP OF THE CAUCASUS.



number of deaths is gastro-intestinal catarrh, connected, it is supposed, with the frequently polluted water supply and with the custom of the inhabitants of eating large quantities of unripe fruit and vegetables. The prevalence and fatality of gastro-intestinal catarrh are by no means confined to this part of Russia. It is responsible for a larger total of deaths than any other single disease or group of diseases in almost every town throughout the empire. In the six towns—St. Petersburg, Moscow, Vilna, Saratof, Odessa and Baku—which may be taken as fairly representing all parts of European Russia and the Caucasus, in the three years 1887-89 there were 41,649 deaths from this one disease, from the next most fatal group of diseases, those of the respiratory organs, there were 31,821 deaths, and from tuberculosis, 27,916. This widespread existence, particularly during the summer, of gastro intestinal catarrh is a fact of the first importance in the epidemiology of cholera in Russia, and probably in it is to be found the reason why the cholera infection, once fairly introduced into the country, has generally spread unchecked throughout the whole of the empire. So long as the cause of it exists, and particularly so long as the water supply of the towns and villages remains what it is and the local authorities continue indifferent as to its source and purity, the Russian people must form a happy hunting ground for the cholera bacillus, and in all probability all efforts to check its spread when once it has passed the frontier will be futile.

The cholera was imported to the Caucasus at its most vulnerable point. The town of Baku lies on the coast of the Apsheron peninsula, which juts into the Caspian Sea almost exactly opposite the terminus of the Transcaspiian Railway at Oozoon Ada on the east coast of that sea. Between the two ports there is frequent communication, they lie 132 miles apart and the crossing takes about twenty seven hours. The first cases of cholera occurred in Baku on June 6th,³ eighteen days later than the appearance of the disease on Russian soil at Kaachka and twelve days later than the first cases in Oozoon Ada.

Baku is a large town that has increased immensely in the last few years. In 1888 the population was less than 46 000, a year later it had nearly doubled itself, and this year the town is reckoned to contain 108 000 inhabitants. This rapid growth is closely connected with the extraordinary development in the trade in naphtha, which is found in large quantities in the neighbourhood. The air reeks with its fumes, and the water of the harbour is covered with a film of it. If one may believe a recent correspondent of a Russian newspaper the naphtha fumes have a disastrous effect on all vegetation. The town, it is said, "contains gardens without grass, trees without leaves, sea without water, and steppes without air, for it is as impossible to call air that kerosene vapour which blows round Baku for many versts as it is to call water that mother of pearl tinted, heavy mud which creeps into the harbour, taking every colour of the rainbow in the sun." The water supply of Baku appears to be a matter of difficulty. It is obtained from wells, but, lying as the town does on a bare and sandy peninsula surrounded by the sea, the well water is hard, rich in salts and deposits a sediment. The inhabitants of the hills at the back of the town have a much better water supply from springs and streams. The town has, besides its Russian part, an Asiatic quarter surrounded by old fortifications and inhabited by the poorest of the labouring classes, a population consisting of Tartars and Persians living in a state of indescribable Oriental filth and innocent, it need scarcely be added, of the most rudimentary measures of hygiene or sanitation. It is not surprising that the cholera, when once introduced into Baku, spread rapidly and almost at once assumed serious proportions especially as few measures of precaution were taken by the local authorities until the disease was well established in the town. Then panic rendered firm or united action on the part of those in power impossible. The hospital accommodation was found to be inadequate, the number of medical men insufficient, and a total absence of disinfectants rendered still more hopeless any efforts on the part of the sanitary officials. All who could fled from the town, the trains were besieged, the stations packed with crowds unable to find room in the trains, shops and factories were closed and business came to a complete standstill. One of the few measures taken by the authorities was that of watering the streets with *mazut* the refuse from the naphtha refineries, presumably under the impression that it possessed disinfecting properties. Its utter failure in Baku to check the epidemic

is a practical confirmation of the experiments of Koch, who found that neither pure petroleum ether nor benzol had any effect on spores exposed to their action for five and for twenty days respectively. During the seventy eight days that the epidemic lasted in Baku there were 1834 deaths from the disease.

From Baku the infection spread as from a centre. A consecutive itinerary of its course is impossible, as it was not following one line but was appearing at the same time in many towns widely apart. In Tiflis, in Elizavetpol, in Zakataly, in Petrovsk and in many other places the earliest cases were amongst refugees from Baku and preceded by some days cases amongst the residents of those towns. The Transcaspiian Railway, which connects Baku with Batoum and Poti on the Black Sea, was one important channel of infection, but the disease appears to have spread as much if not as rapidly, by road and sea as by rail. Tiflis, one of the earliest towns affected, lies on the railway about eighteen hours' journey from Baku. With a population of 102,000, it possesses the great advantage of a good water supply derived from springs in the hills ten versts away and brought to the town by an aqueduct. The water is stated to be remarkably pure, and it is doubtless owing to this fact, together with the high position occupied by the town, that Tiflis suffered so comparatively lightly from the epidemic. The first cases occurred on June 13th and the total number of cases reported was 570 and of deaths 261. On June 14th cases occurred in Petrovsk on board a steamer coming from Baku, on the 16th the disease was reported from Shusha and on the 18th from Elizavetpol. Before the end of June it had reached the Northern Caucasus and cases occurred in the Terek province and the government of Stavropol. Early in July the disease appeared in Erivan and in Kars, and before the middle of the month every district of the Caucasus was suffering more or less severely. In the three northern provinces the epidemic was raging violently, between two and three thousand cases and half as many deaths being reported daily. In the province of the Terek, in particular, the numbers were very high. The capital of this province is Vladikavkaz, important as being the terminus of a line of railway connecting it with Rostof on Don.

A little to the north of Vladikavkaz, on the Rostof line, lies the group of inland watering places which have long attracted crowds of visitors every summer by the fame of their mineral springs. Piatigorsk with sulphurous waters, Essentuki with alkaline, and Jeleznovodsk and Kislovodsk with ferruginous and acid waters respectively form the chief centres. At the beginning of the summer a larger number of visitors than usual flocked to the springs, hoping thus to escape the cholera, but, as the epidemic rapidly spread through the Caucasus and approached within a hundred versts of Piatigorsk, there was a sudden panic. People fled in all directions and the watering places were speedily emptied.

In the following table the statistical details of the epidemic are given down to Nov 1st. For these figures I have again to express my indebtedness to the authorities of the Medical Department of the Ministry of the Interior.

Table of the Cholera Epidemic in the Caucasus to Nov 1st, 1892 (Old Style)

Province or Government.	Cases.	Deaths.	PER 100 000 INHABITANTS.		Percentage of deaths to cases.
			Cases.	Deaths.	
Terek*	27 095	13 127	8 833	1 639	48.5
Stavropol	14 802	7 880	2,115	1 040	40.2
Kuban	28 669	15,045	1 911	1,003	52.5
Total for the Northern Caucasus	70,550	35 452	2,390	1 203	50.3
Daghestan	28 467	10 450	8 011	1,743	44.55
Baku	11 164	6,831	1 593	970	61.2.
Kars	2,683	1,203	1 341	601	44.75
Zakataly	958	504	1 308	702	60.0
Erivan	8 039	4 845	1 277	609	54.2
Elizavetpol	9 711	5 034	1 070	632	58.53
Tiflis	5,898	3 032	720	370	52.2
Kutais	470	256	0	3	64.0
Total for the Southern Caucasus	63 225	32,001	1 831	9.3	52.0
Total for the Caucasus	133 781	68 353	2,000	1 063	51.1

* To October 15th

* All the dates mentioned are according to the Old Style

A light coloured liquid motion was passed on the third day, and regularly every day after. The pulse on the first day was 72, second, 80, third, 76, fourth, 100, fifth, 102, sixth, 100, seventh, 90, eighth, 102, ninth, 96, tenth, 90, and then it gradually fell. The temperature was 97° on the evening of the operation, on the second day 99.5°, third, 100°, fourth 99.5°. On the three following days it was normal, and then the day after it mounted suddenly in the evening to 102°, falling next morning to 99°, after which it kept nearly normal till he left the hospital, which he did twenty five days after the operation. The plates were never seen in the stools. The patient has gained greatly in weight, being 9st. 7lb. on admission, now, exactly one year and one month after operation, he weighs 13st. 9lb. There is so far no perceptible recurrence.

Remarks.—Three details which Senn strongly recommends I neglected to do in this case, but as matters have turned out they were unnecessary. One is after the introduction of the plates and before tying the ligatures, to scratch the serous surfaces to be apposed, the second is to anchor the bowel in the vicinity of the junction to the parietal peritoneum, and the third to attach round the place of union an omental graft. One detail, however, which cannot be neglected without fatal extravasation of intestinal contents is to be especially particular to bring the serous surfaces accurately in apposition at the point where the mesentery joins the intestine and where the serous coat of the colon is deficient behind. This I was most careful to do. The last I heard of this patient was that he had run a race with a competitor, and, as in the fight, he was the victor.

Albion street, Hull.

A CASE OF PLEURAL EFFUSION AT THE RATE OF THREE AND A HALF FLUID OUNCES AN HOUR

By W. HALE WHITE, M.D. F.R.C.P.,

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THE following case seems to me sufficiently remarkable to deserve record. The patient had ordinary tubal nephritis, together with mitral constriction and regurgitation. There was as is usually the case, some fluid in each pleural cavity. On Dec. 11th twelve ounces of fluid were withdrawn from the left chest, and on Dec. 18th thirty six ounces were withdrawn from the right chest. On Dec. 17th the extraordinary part of the case began. The patient was seized with excruciating pain in the right chest and much dyspnoea. Thirty hours after the first aspiration of the right chest 106 ounces of fluid were withdrawn from it. Especial care had been taken to remove all the fluid at the first aspiration so that the whole of the 106 ounces must have collected in thirty hours. On Dec. 20th (seventy-eight hours after the second tapping of the right chest) 120 ounces of fluid were withdrawn from it. On this occasion also there were extreme pain and dyspnoea, in addition there was great oedema of the neck, which I was inclined to attribute to pressure on the superior vena cava and the enormous quantity of fluid in the right chest, for it subsided quickly when the fluid was withdrawn. On Dec. 22nd (thirty hours after the third tapping of it) fifty ounces of fluid were withdrawn from the right chest, which was not tapped again till Feb. 12th, when thirty ounces of fluid were taken out.

It seems to me that the only possible explanation of this extraordinarily rapid accumulation of fluid is that the patient had thrombosis of her large axillary vein before it is joined by that from the left side. It is not against this view that we saw no enlarged superficial veins or the most important anastomoses between the branches of the axillary veins of the two sides and the large axillary vein and the inferior vena cava are deep-seated in the abdomen, the thorax, and around the spine. Nor is it conclusively against this supposition that no evidence of thrombosis was found post mortem for the patient did not die till eight weeks afterwards by which time all signs of thrombosis might very well have disappeared. She herself had the clinical symptoms of thrombosis of her femoral vein only ten days before her death, and yet the vein was at the necropsy found to be patent. I have often observed that when patients have died no evidence has been forthcoming of thrombosis, although all the signs of it have been present during life, and at a recent meeting of the Pathological Society, at which Dr. Pitt read

a paper on Pulmonary Embolism, Dr. Goodhart and others expressed the opinion that all the evidence of venous thrombosis might so completely disappear that no sign of it can be found post mortem. It seems to me that no other explanation offers itself of this case, in which supposing the fluid collected at a uniform rate, after the first tapping of the right chest that rate was three ounces and a half an hour, after the second one ounce and a half an hour, and after the third about one ounce and a half an hour. It is also quite exceptional for the distension of the chest with fluid to be so rapid as to cause acute pain, and it is no doubt comparable to the severe pain in the calf, felt in acute femoral thrombosis and, like it, is probably due to the rapid stretching of the parts by the fluid, also it must be very rare for the pressure of the fluid on the superior vena cava to cause oedema of the neck.

The following are the details of the case.—A young woman aged twenty two was admitted into Guy's Hospital on Dec. 1st, 1892. She had had scarlet fever when young. She was a waitress at a restaurant, and when going home from her work caught cold. The next day her feet were swollen and the day after her face and eyelids and five days later, feeling ill she took to her bed. The oedema increased, and she suffered from pain in the head and in the loins from vomiting and from dimness of vision. On admission she was suffering from general oedema. There was some ascites. The cardiac apex was in the normal position. The chest was dull behind from the eleventh rib for four inches upwards, and over this area there were all the other signs of fluid. The edges of both optic discs were blurred. She was passing about twenty fluid ounces of urine, 150 grains of albumen, and 100 grains of urea a day. Milk diet and diuretics were ordered.

Dec. 7th.—She was better, the oedema of the body generally was less, but the chest was very dull up to angles of the scapulae.—10th She was ordered injections of pilocarpin and a vapour bath at night, compound jalap powder when necessary and middle diet.—11th Twelve ounces of colourless fluid were withdrawn from the left chest.—12th A systolic murmur was heard to-day at the apex for the first time.—16th Thirty six ounces of colourless fluid were obtained from the right chest. The patient was not so well. The systolic murmur was heard in the axilla, and there was a presystolic murmur also. Particular care was taken to aspirate all the fluid.—17th This evening the patient was suddenly seized with excruciating pain in the right chest together with severe dyspnoea. The right chest was found to be extremely dull, and it was at once aspirated, thirty hours after the last aspiration of it, and 106 ounces of fluid were withdrawn. The fluid must if it collected at an even rate have formed at the rate of three ounces and a half an hour. The patient was much relieved by the aspiration.—18th The patient was better, this evening the air was entering the right lung very well.—19th The air did not enter the right lung at all well but there was no dyspnoea, although the dullness extended up to the fourth rib.—20th At 2.30 A.M. the patient rather suddenly became very dyspnoeic, and 120 ounces of fluid were withdrawn from the right chest. Previously to this oedema about the neck had rapidly appeared and was very marked, as though the superior vena cava was pressed upon but it subsided after the fluid was removed.—22nd Gradually the signs of fluid have returned in the right chest, and this afternoon at 4 P.M. thirty hours after the last tapping fifty ounces of fluid were withdrawn. The left chest has always remained free or almost free, from fluid since it was tapped.—27th The fluid was slowly collecting again in the right chest. It was noticeable that the withdrawal of large amounts of fluid from the chest have been associated with a considerable diminution of the general oedema. During January it was not necessary to withdraw any fluid from either side of the chest. The patient suffered from bronchitis, headache and diarrhoea at different times. She also developed well marked albuminuric retinitis, and towards the end of the month pericarditis.—Feb. 7th The legs have been very swollen lately especially the left in which there is such pain and tenderness over the femoral vein as to make one very suspicious of thrombosis in it.—12th The dyspnoea has been getting worse the last few days and to-day thirty ounces of fluid were withdrawn from the right chest.—14th The patient was in all respects much worse, sixteen fluid ounces were withdrawn from the left chest.—17th The patient died this evening.

Necropsy.—The kidneys were typical large white kidneys. The heart weighed thirteen ounces. There were three ounces of fluid in the pericardium. The mitral valve was

It will be seen that during the five months from June to October inclusive there were reported 133,781 cases of cholera in the Caucasus, and 68,353 deaths. If to these figures be added those already given for the Central Asian provinces and Siberia, it will be found that the final totals for the whole of Asiatic Russia were 222,956 cases and 115,184 deaths.

It is impossible to enter here into a full account of the measures taken by the Government to check the spread of the epidemic through the Caucasus and so to European Russia. Early in June a large number of circulars were issued by the various Ministers with this object. The majority were general measures applicable to all parts of the country. Of those specially adapted to the local conditions of the Caucasus the most important had reference to the Transcaucasian Railway. On June 12th M. Gratcheff, the senior inspector of railways, was sent to Tiflis by the Minister of Ways and Communications with instructions to form a Commission, consisting of representatives of the line and the local medical authorities. The duties of the Commission were to organise a sanitary service on the railway, to supervise the carrying out of the numerous Government orders for preventing the spread of cholera, and to concert with the local authorities along the line all measures that seemed to be called for to check the epidemic. Before the formation of the Commission the management of the railway had stopped all goods traffic between Tiflis and Baku, and passenger trains were allowed to run only as far as Baladjari, a station thirteen versts from Baku. Additional measures were taken by the Commission. Sanitary waggons were attached to each train, with accommodation for persons taken ill on the journey, provision was made at certain stations for the removal and treatment of such patients, and disinfection was actively carried out on the trains and at the stations. Unfortunately, however thoroughly these measures may have attained their object on the line of railway, this was but one channel by which the infection was being carried. "Like ghosts from an enchanter fleeing," the "pestilence-stricken multitudes" were escaping from Baku in thousands daily, by road and by sea as well as by rail, and it is questionable whether any measures, however active, could have done much to check the course of the epidemic when once the exodus had begun, more particularly in a country where the hygienic conditions are such as they have been seen to be in the Caucasus.

RESECTION OF THE CÆCUM, GREATER PART OF ASCENDING COLON AND FIVE INCHES OF ILEUM FOR MALIGNANT DISEASE OF ASCENDING COLON

By D. LOWSON, CM. ABERD.,

ASSISTANT SURGEON, HULL ROYAL INFIRMARY SURGEON, HULL WOMEN'S HOSPITAL AND LATE EXAMINER IN SURGERY, ABERDEEN UNIVERSITY

MR. CARPENTER, the assistant house surgeon to the infirmary, has taken great interest in this case, and I transcribe largely from his copious notes. The main events of the clinical history of the case are as follows. Seven years ago, when the patient was thirty-three years of age, he took part in a pugilistic encounter with a pugnacious friend at Drypool Feast (a local fair in Hull). After a long struggle he emerged from the dust and din of battle, victorious. Later in the evening, however, he was waylaid and attacked by some friends of the vanquished, and by them he was kicked, bruised and beaten, and lay half dead for some hours. He was quite unable to walk and had to make the best of his way home on all fours, taking frequent rests. It being now late at night, he met no one on the way to render him any assistance, with the exception of a policeman, who threatened to have him locked up. He arrived home at four o'clock in the morning, and for several weeks was confined to bed. He suffered much from pain in the right side, but discovered nothing unusual about his urine or motions. He had no medical attendance. After this he had good health till January, 1890, when he had an attack of influenza. In May of last year there occurred a severe hæmorrhage from the bowels when quite a pint was lost. A recurrence took place in June nearly as profuse. The same month he sustained a fracture of the leg, and in

November he first noticed a swelling in the right loin. I saw him first in consultation with Mr. Hollingworth of this town, when we found a tumour the size of a situated in the right loin. When in the horizontal position the middle of the swelling was in line with the umbilicus, was firm and very movable, and it had lately become tender on manipulation. There was no obstruction, and June the hæmorrhage had not recurred. In appearance patient was very thin, but he had well developed muscles and in former times had been a very strong man. He lived rather freely and taken a good deal of liquor, without being, in his own opinion, a drunkard. The action of the heart was at times very irregular, but at others no irregularity could be detected. The urine contained albumen nor sugar and had a specific gravity of 1028. He was admitted as an in-patient of the infirmary Jan. 16th of this year and immediately put on milk diet with thirty grains daily of β naphthol in the form of a pill. On subsequent consultation, the diagnosis of malignant disease of the colon being given unanimously, I opened the abdomen on Jan. 24th by a vertical incision in Langenbuch's position to the outer side of the rectus. A large mass immediately presented itself, involving the middle of the ascending colon, the cæcum and appendix being unaffected. The tumour was adherent to the colon anteriorly, and this I severed with scissors and ligature. Pushing the colon inwards, I entered the scissors above the level of the tumour through posterior layer of peritoneum lining the posterior wall of the abdomen to the outer side of the great bowel, and ran down to a point opposite the lower end of the cæcum. The bowel could now be easily separated from its bed. It remained to divide the peritoneum on the inner side the colic vessels spread out fan-like to supply the tumour. This was done by tying the serous membrane with five or six successive pieces and dividing distally, —i.e., between the ligatures and colon. The ileum in this incision inclined downward and inward, meeting the ileum as it crossed to join the colon five or six inches above the ileo-cæcal valve. Several diseased glands were in this triangle. The ileum was separated from the mesentery in the same way, and now the greater part of the colon, with the cæcum and four or five inches of the ileum, was free along with the tumour. The time had now arrived at dividing the bowel. Two long Makins' clamps were applied to the colon above the tumour, and between these the bowel was divided as nearly at right angles as possible. The serous membrane of the upper divided end was stitched together by a fine continuous silk suture, and then on invaginating the stitched end, the serous coat was united by a close row of Lembert's sutures. The ileum was also divided, and the edges turned in and sewed by Lembert's suture in the same way. The whole piece of bowel to be removed was now a liberty, and was lifted out of the abdomen with the tumour. There was left a gap in the intestinal canal extending five inches above the lower end of the ileum to nearly the beginning of the transverse colon, and the ileum ending in the cul-de-sac and the colon beginning in the same way, was necessary to re-establish the continuity of the canal. I therefore opened the transverse colon anteriorly, the opening being rather more than an inch long and running the long axis of the bowel. Into this one of Senn's bone plates was introduced with the threads in position—i.e., placed laterally and one at each end. The lateral threads were drawn through the intestinal wall and the end made to come out at the angles of the wound. The ileum was treated in the same way and a second bone plate similarly introduced. One of the lateral threads of the plate in the colon was united to the corresponding lateral thread in the plate in the ileum and tied firmly a couple of sutures being introduced on each side of it. The end sutures were next knotted, and finally also the other two lateral threads, the whole being rendered more secure by the introduction of a few stitches in the intervals. The parts were gently washed, the clots and sponges removed, the bowel replaced and the abdominal wound closed, a Keith's tube being kept in for a couple of days.

After the operation the patient lay collapsed for several hours. The sickness was at first severe and much pain was complained of. One-sixth of a grain of morphia was given the same evening and one-sixth the next morning. Next day he was better, and would have had very little pain had it not been for a troublesome cough. For two days he had nothing but hot water by the mouth. On the third day he had eight ounces of hot milk, and on the day after two pints

INTUSSUSCEPTION OF THE BOWELS TREATED BY INFLATION

By C. E. SOULBY, M.D. BEUX, L.R.C.P. LOND. M.R.C.S.,
LATE HOUSE SURGEON TO THE MIDDLESEX HOSPITAL.

THE following brief notes refer to a case which I diagnosed as intussusception of the bowels. Of course there can never be any actual certainty of the correctness of such a diagnosis during life unless a laparotomy be performed or the apex of the intussuscepted gut passes out of the anus or can be felt in the rectum, yet, in the following instance, the symptoms seemed to be typical of this complaint.

A bright, intelligent boy of five years was taken ill on Jan. 29th, 1893. He complained of great pain in the body and his parents had noticed a 'lump' there at the seat of pain. During the 27th and 28th he had been troubled with looseness of the bowels the motions at first consisting of faeces, later of faeces and blood, and on the evening of the 28th of blood only. On the 29th I found the boy suffering from great pain in the body, vomiting, a coated tongue, confined bowels and in the right iliac region a sausage-shaped swelling about four inches long very painful when handled. The temperature was normal. I ordered small quantities of beef-tea, milk and ice, and prescribed five-minim doses of tincture of opium. On the 30th the patient was no better, although there was an abatement of the pain especially after the medicine. The bowels were not opened. I examined the rectum, but could feel no intussusception. I kept him on a light diet of beef tea, continued the opium mixture, and in the evening gave a copious injection of warm water. This was of no use and returned in fifteen minutes mixed with dark blood.

Jan. 31st.—His condition is worse. The swelling in the abdomen is increasing in size in a direction upwards and to the left, the abdomen is greatly distended, he vomits more frequently, the tongue is becoming brown, he was delirious during the night, the bowels have not been opened, the pain in the abdomen is greatly controlled by the medicine.—Feb 1st The patient is no better, his condition is about the same as yesterday, the bowels have not acted, the abdomen is still greatly distended. In the evening he had another copious enema of warm water, and afterwards air was continuously pumped in with the Higginson's syringe which I used for the injection of the water. During this injection the boy towards the close, shrieked from pain, and I believe at the time, from what I found on my first visit on the following day, the invaginated bowel was reduced.—2nd. He has had three actions of the bowels since the injection. The first motion consisted of the injection, with some faecal matter and blood, the second of liquid faecal matter and blood, the third of fluid faecal matter only. His condition is entirely changed, the swelling of the body and great distension have disappeared, he has not been sick, and the early symptoms of collapse which were evident on Feb. 1st are passing away. After this he made an uninterrupted recovery, solid faeces passing in due time, the medicine and restricted diet were continued for some days no anæsthetic was used for the inflations. The cause, I believe, is not far to seek for his parents told me that he had for some days previously to the illness been practising "musical drill" with other boys, in which the body assumed many and varied attitudes.

G. S. B.

SOME FORMS OF ACQUIRED SPINAL CURVATURE SUCCESSFULLY TREATED BY A MODIFIED FORM OF SAYRE'S JACKET

By M. N. BYRN, B.A., L.R.C.P. IREL. &c.

HAVING had three cases of acquired curvature of the spine under treatment, which occurred in females, all dressmakers, and which had its location in the upper dorsal region, I wish to detail the following case as being the worst of the three.

A young woman aged twenty-one enjoyed good health till eighteen years of age. She left home in the country to live in a town for the purpose of following her occupation as a dressmaker. After a short time she found bending over her work tiresome and complained of a dull aching pain between the shoulders, which developed to such an extent that she had to give up her work and go home, where she remained for

two years and a half suffering great pain, and, to use her own words, unable to lie down, sit or stand with any comfort. Her stature was reduced one inch and a half (from 5 ft. 4 in. to 5 ft. 2½ in.), she was flabby looking, almost unable to walk, and complained of great weakness in the arms, no appetite, and undue prominence of the upper dorsal vertebrae, with redness and tenderness of the skin over them, her chest revealed nothing abnormal on auscultation. I prescribed cod liver oil and syrup of the iodide of iron, and applied the jacket in the following manner. A tight fitting ladies' woollen singlet was substituted for the Cardigan jacket. Outside this I placed a cardboard splint four inches wide, padded with cotton wool, along the spine, and applied the plaster of Paris bandages in the ordinary way. I dispensed with the jury mast Co., the patient being merely standing in as upright a position as possible during the application. In a month she was able to walk with the aid of a stick, and in another three months she regained her full stature, was able to walk about without any inconvenience and entered farm service, where she still remains enjoying good health. The result in the other two cases was equally satisfactory.

Weaverthorpe Yorks.

J. Mitro
OF

HOSPITAL PRACTICE, BRITISH AND FOREIGN

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collatim habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

GREAT NORTHERN CENTRAL HOSPITAL.

GANGRENE OF ANTERIOR FLAP AFTER AMPUTATION
SUBSEQUENT SKIN GRAFTING

(Under the care of Mr PEYTON T. B. BEALE.)

WE have recently had the advantages of Thierch's method of skin grafting after the removal by excision of tuberculous lupus of the skin and subcutaneous tissue brought prominently before the profession at the Medical Society. We now publish notes of a case of a different nature, which will serve to remind our readers that it may be of use in other circumstances. A question which has frequently to be decided by the hospital surgeon when an injury has been so severe as to require amputation of a limb is whether the injury inflicted has lowered the vitality of the tissues near the wound from which he would like to take his flaps to such an extent that they will certainly slough, or not? It is an important question, especially when one of the lower extremities has been injured, for an inch more or less may make the operation successful or unsuccessful in saving life. If the surgeon knows that he may fall back on the use of a process of grafting which will obviate the disadvantages of a contracting cicatrix should a flap slough partially or completely he may feel emboldened to risk this sloughing as it will take place under antiseptic treatment and suppuration with its attendant risks will be prevented. We are left somewhat in doubt, in reading the notes of the case, as to whether Mr Beale would have amputated at the point which he selected finally had it not been for the dictation of the parents, but hold strongly the opinion that before undertaking any operation of emergency the surgeon should be left with a free hand to do what he knows is best for the patient and not accept responsibility with his hands tied.

A boy aged nine was admitted to the Great Northern Hospital on April 19th 1892, suffering from a very severe crush involving the left foot and leg as far as the tubercle of the tibia, also a compound fracture of the right fibula. The laceration of the tissues of the left leg was very great, both bones being fractured in six or eight places. The parents insisted upon the knee-joint being left intact so an amputation was performed at the level of the tubercle of the tibia with the antero-external and postero-internal skin flaps which showed at the time no signs of bruising. Fourteen hours after operation traumatic delirium set in, and the boy's temperature rose to 104. This condition continued, with intermissions, for thirty hours. At the first dressing forty six

both incompetent and constricted. The pulmonary, azygos and left femoral veins all appeared to be normal. The right pleural cavity contained twelve ounces of fluid, the left eight ounces. There was extensive pleurisy over the left lung and some over the right. The bases of both lungs were compressed. There was some pus in both tonsils.

Harley street, W

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL AND THERAPEUTICAL

A CASE OF STRYCHNINE POISONING IN WHICH DEATH OCCURRED AFTER AN UNUSUALLY LONG PERIOD

By THOMAS J HENRY, L.R.C.P. & S. EDIN, J.P.,
GOVERNMENT MEDICAL OFFICER, WARIALDA, NEW SOUTH WALES.

AT 9.35 A.M. on Jan. 27th I was called by the police to see a man aged forty six. He was said "to have taken strychnine to do away with himself." As he lived close at hand I was with him in five minutes. I found him convulsed about the lower part of the body. He told me he had taken, three quarters of an hour or so previously, "as much strychnine as would cover a shilling"—probably from seven to ten grains. He had poured it in a dry state on to his palm, tossed it into his mouth and washed it down with water. He had by threats compelled his wife to watch his actions, and then wait until symptoms manifested themselves—a period of from ten to fifteen minutes. He then sent her to a business man in town with a letter he had previously written, detailing his intention. The woman said she was too frightened to give any alarm, although people lived within twenty yards. She delivered the letter and returned quickly. The recipient of the letter, thinking it might be a serious threat, took it to the police. The latter went to investigate the case and then called me. I adopted the chloral and bromide of potassium treatment, giving large doses of each. I supplemented these by chloroform inhalation occasionally. At first the jaws were free and I was able, by police assistance, to prevent the patient's attempts to bite and got the tube down. I washed the stomach out repeatedly. It was quite devoid of food. He was well aware of the strength and properties of strychnine as he was an experienced dingo poisoner and had over seven ounces of the alkaloid (coloured pink as used in New South Wales) in his possession. To cause more rapid absorption he had refrained from breakfasting and taken a glass of whisky instead. The convulsions were exactly as described in Taylor's and others' works. He complained of great thirst and desired to be placed on his side. About 11 A.M. the symptoms were well marked. I then chloroformed him and he sank into a deep slumber such as chloral would produce, and he remained quiescent and limp till 1 P.M. He then awoke, seemed better, regretted his rash act and even joked. In accordance with the accepted teachings, both of the schools and the textbooks, that after three hours a strychnine patient is practically safe, and, considering the patient's condition, I gave a good prognosis. At 2 P.M. he still seemed improving, but twitchings and mild general convulsions occasionally occurred. I then gave more chloral and at 4 P.M. more bromide. At 3 P.M. I had caused him to be removed to the hospital of which I am medical officer. He was carried the distance, about 200 yards, on a police stretcher, and had no convulsions on the way. About 4 P.M., however, convulsions again became more frequent, and he was much exhausted. What I particularly noticed all through was the extremely sudden cessation of the paroxysms. From the climax to complete relaxation was an instantaneous fall. Each lasted from ten to thirty seconds. There was usually an interval of ten to fifteen minutes between each. At 5.45 P.M. he seemed improving under the treatment, but suddenly as I was speaking to him he said, "Here's another coming" and cried out in terror. A dreadful paroxysm bent him back, he became almost black, and when the sudden relaxation occurred I

found he was dead—asphyxiated by the intensity of the seizure. His pulse continued beating for a few seconds after the respiration stopped.

What I desire to particularly draw attention to is the length of time he lived—eight and three-quarter hours—after the onset of symptoms, or nine clear hours after the dose. Taylor (11th edition, edited by Dr Stevenson) gives six hours as the longest recorded period for a fatal issue, and other works state the same. I think it highly important that it should be known by general practitioners that exceptions may occur in order that no relaxation of treatment may be permitted from a false sense of security.

Warialda, New South Wales

SACRO ILIAC DISEASE, WITH NOTES ON ITS TREATMENT

By PEYTON T. B. BEALE, F.R.C.S. ENG., L.R.C.P. LOND.,
SURGEON TO OUT PATIENTS AT THE GREAT NORTHERN CENTRAL
HOSPITAL, DEMONSTRATOR OF PHYSIOLOGY IN
KING'S COLLEGE, LONDON

SEVERAL points of interest in sacro iliac disease have been recently brought forward in the discussions arising at various societies, and I should like to draw attention to a few facts which seem to show that the disease is often accompanied by tuberculous disease involving the anterior surface of the sacrum. Brief notes of a case which was recently under my care illustrate this point.

A man aged thirty, with a strong tuberculous history, was admitted into the Great Northern Central Hospital in the early part of 1892 suffering from well marked sacro-iliac disease. The disease was of about twelve months' standing, and the patient had undergone the usual treatment—that of opening abscesses and scraping out sinuses—several times. There was complete ankylosis of the left hip, with considerable flexion, dating from the time when the patient was four years of age. When he came under my care there were five or six sinuses in the left gluteal region and over the left sacro iliac synchondrosis, with the usual signs of tuberculous disease of this part. One sinus discharged thick cheesy pus and, when probed, seemed to lead to the great sacro sciatic notch. This sinus was laid freely open until the finger could be passed through the notch. A sequestrum was then felt lying against the front of the sacrum, it could not be grasped or withdrawn even after several attempts with different instruments, nor could it be broken up, as it was quite loose and slipped at once out of reach, so a free incision was made over the situation of the great sacro sciatic notch on the right (sound) side. The left forefinger was inserted and the wound enlarged until the finger passed easily through the notch. By this means the sequestrum was reached, pushed across the front of the sacrum grasped and broken up by forceps, assisted by the right forefinger in the wound on the left side, and the fragments were removed. The other existing sinuses led down to the same region and were laid open, scraped and drained. The shape of the sequestrum showed it to consist of the greater part of the sacro-vertebral articulation and it would appear that the disease had originated in this situation and that the presence of the sequestrum at the front of the sacrum had caused the continuance of the symptoms. In support of this view I may state that Professor Rose had a similar case under his care in King's College Hospital some months ago, where he removed a sequestrum from the front of the sacrum, and other cases have been published where necrosis in this region was described in conjunction with sacro-iliac disease.

Mr. Makins has recently recorded three cases in one of which there was ankylosis of the hip on the affected side. Thus the presence of cervical curies seem to be fairly commonly associated with sacro-iliac disease and both are due to tuberculous affection. The man, whose case I have briefly described improved rapidly after the operation and was able to walk, but he is now suffering from general tuberculosis. I therefore venture to think that in cases of sacro-iliac disease it is of the utmost importance to examine the front of the sacrum through the sacro-sciatic notch, and there is much evidence in recorded cases to show that the disease does exist there, perhaps primarily.

Grosvenor-street, W

and even passed into a status epilepticus. They made apparently complete recoveries.—Dr FRANCIS WARNER asked if mental dissolution in senility was more apt to occur in those of low class mental development. He compared one of the varieties of mental dissolution mentioned by Dr Savage to those cases of defective action of the muscles of the face in which the finer condition of muscle, not to be described anatomically, but known as expression might be left unimpaired.—Dr RICHARDS thought the inordinate appetite of senile dementia might be of local origin and be due to a blunting of the sentient ends of the nerves of the stomach. He did not think that mere absent-mindedness could be regarded as a sign of mental dissolution, for it was often present in young people who were otherwise healthy.—Dr SAVAGE, in reply, regarded the instances related by the President as eccentricities or lapses rather than losses of memory. The cases with epileptiform convulsions were not usually of grave import and they usually occurred in brain workers who had led irregular lives. The degradation of the "higher" mind was more readily perceptible than that of the lower mind. He could not admit the local explanation offered of the cases of inordinate appetite.

Dr FRANCIS WARNER then read a paper on the Constitutional Differences between Boys and Girls and their Relation to Educational Requirements. The statements made were based upon observation of 50,000 children seen by him in schools, of whom 20 per cent of the boys and 15 per cent of the girls were noted as deviating in some respect from the normal. The cases recorded were arranged in four primary groups—as defective in development, in nerve condition, in nutrition, or dull at lessons. It was in the numerical frequency and combination of these states that he sought to indicate the groups of children and the constitutional differences of the sexes. In each primary group except low nutrition, boys predominated. The relative power of resistance to adverse circumstances in boys and girls respectively might be sought in the combined conditions of the "development cases," which were the worst as to nerve and nutrition, with a large proportion of dullness, the boys showing more nerve signs and the girls being more thin and pale and dull. In the worst groups of children, including the imbeciles and those hardly educable, the boys predominated, so also amongst eye cases and for squint. Low nutrition was largely associated with defect in development throughout all groups of schools, this was more strongly marked with girls, increasing under any stress from the environment. Amongst normally made children there was an equal proportion of boys and girls who were pale and thin. Looking at boys and girls as seen in school by the teachers, amongst 100 dull children or 100 nervous ones there were more thin girls than boys. There was a large proportion of boys below the normal make, but amongst abnormal children girls suffered most, the boys appeared to have more spontaneous or uncontrolled growth and brain action, whilst the girls who were below normal in constitution, were more readily affected by their environment. The "development cases" did not appear under as favourable conditions in institutions as in day schools, they grew fatter, especially the girls who increased in dullness more than the boys, whilst the number with disorders of the nerve system was especially increased amongst boys. Comparing children in the upper and lower social classes, the general advantage was with the latter, the proportion with defect in development was equal for girls, but for boys in the upper class it rose, that for "defect in development cases" was for boys more free of nerve signs in the upper class whilst as to the girls they were better off in this respect amongst the poorer class. Hard work seemed to suit the irregularly made boys better than the girls. Amongst the English Irish and Jews, the latter ancient race was the most normal in all particulars whilst the Irish showed the highest deviation from the normal, especially the boys. Dr Warner thought that many of these deviations from normal make of body and action of brain were due to spontaneous growth and action not well controlled by past and present environment—non evolutions or "dissolutions of acquired coördinated action" rather than degenerations on the other hand some defects—e.g., small heads, which were common amongst girls—appeared to be frequent in neighbourhoods with large buildings. Nerve disorder might largely be removed by good training which was particularly necessary for the feebler made children. Whilst school arrangements were framed for average children, it should be remembered that 20 per cent of boys and 15 per cent of girls were found to deviate from the normal, and that

these children, especially the girls, might suffer from want of due attention to their condition, 17 per 1000 of boys and 15 per 1000 of girls appeared to require special methods of care and training. It was suggested that some knowledge of the scientific observation of children should be given to those in charge of schools and that educational methods might be improved by scientific study of children. The efforts of State medicine might well be directed to improving the conditions under which children lived, lessening the proportion with defects and aiding the evolution of a stronger race, well adapted to the conditions under which they had to live. National education appeared to confer great benefits, but great improvements appeared possible.—Dr NORMAN KERR held that our present system of education was wrongly organised. The Jews were examples of the reward that followed strict obedience to the laws of health in body and mind. He looked upon malnutrition as a great cause of mental as well as bodily defect. As much muscular exercise as possible should be coördinated with mental training.—Dr SAVAGE said that if criminal children could be caught young enough they could be prevented from becoming criminals. The deaf and dumb and blind were taught separately and people defective in other ways deserved equal care.—Dr ALTHAUS thought Jewish children more highly neurotic than Christians, and Charcot, who agreed with this, considered it might be due to their earlier persecutions.—Dr SOLOMON SMITH asked Dr Warner whether he had investigated the departures upwards from the normal as well as downwards. Had exceptional brilliancy in boys and girls any relation with abnormalities of development?—Dr WARNER, in reply said that the proportion of nervous cases was higher in the Jew than in the English boy. The great cause of weak and thin children was not want of food but developmental causes which militated against the production of healthy frames.

PATHOLOGICAL SOCIETY OF LONDON

Fibroma of Nose—Anti choleraic Inoculation

An ordinary meeting of this Society was held on March 21st, Sir Joseph Lister Vice-President, in the chair.

Mr G STOKER showed a growth he had removed from the nose of a woman past middle age. There was a history of spitting blood in the morning for three years and phthisis had been diagnosed, though no signs of that malady could be found. In the right nostril a large papillated mass was found springing from the lower border of the inferior turbinate bone, extending back to the naso-pharynx. There was also a smaller mass growing from the middle turbinate bone. Attempts at removal with the cold snare caused nearly fatal hæmorrhage and so the galvanic snare was used. The growth recurred and was removed in October and again in December, but since the latter date there had been no recurrence and the hæmorrhage had almost ceased. Mr Shattock, who had examined the growth microscopically found that it was a Soft Fibroma and the hæmorrhage had come from its deeper part.

Dr E KLEIN read a paper entitled "Anti choleraic Vaccination" an Experimental Critique. The result of the injection of large doses of cholera bacilli (taken from the surface of solidified agar culture) into the peritoneal cavity of guinea pigs produced acute intense peritonitis and death within twenty four hours, which Haffkine and others considered to be proof of the specific action of the cholera bacillus. That this was unwarranted was shown by the facts—(a) that the peritoneal fluid as well as the blood of such animals contained the living bacilli, (b) that the abdominal viscera were greatly congested and covered with pseudo-membranes, (c) that the condition of the intestine was not characteristic of cholera. When guinea pigs were injected intra peritoneally with large doses of agar culture of—(1) vibrio of Finkler, (2) bacillus coli, (3) bacillus of typhoid fever, (4) proteus vulgaris, and (5) bacillus prodigiosus exactly the same disease and the same pathological appearances (intense acute peritonitis) were produced as with the agar culture of the cholera bacilli. The subcutaneous injection into guinea pigs of all these six species taken from agar cultures produced the same local soft oedematous tumour, gradually becoming smaller and firmer and occasionally leading to localised necrosis and ulceration of the skin. Agar cultures sterilised at 62 to 65 C for ten to fifteen minutes and then used for the intra peritoneal or subcutaneous injection of guinea pigs produced the same result in the case of all these six species, but larger doses

hours after operation, the anterior flap showed signs of gangrene, but there was no trace of tension. The whole flap (about three inches long) eventually became gangrenous, and was completely separated on the nineteenth day after operation, the whole process taking place quite aseptically. The raw surface which was left was skin grafted by Thiersch's method on May 25th, all the granulations being shaved off before the grafts were applied. The stump healed rapidly, and by July 8th was quite sound. The boy was seen in January, 1893, and the stump was quite satisfactory in every way. The length of time elapsing between amputation and skin grafting is accounted for by an attack of scarlet fever which commenced on the sixteenth day after admission.

Remarks by Mr BEALE.—This case exhibits the following interesting points (1) Violent traumatic delirium, caused by the large extent of skin lacerated and the great amount of comminution of bone and injury to nerves, (2) the exceedingly high temperature accompanying the delirium and lasting for thirty hours, these two factors bringing about the gangrene of the anterior flap, (3) the sloughing of the flap began and continued quite aseptically, (4) the value of skin grafting by Thiersch's method as applied to a stump. Had this not been resorted to, a second amputation through, or above, the knee joint would have been necessary. I would lay great stress upon the complete removal of all granulation tissue by the knife or razor before applying the grafts as by this means only can the subsequent, and otherwise inevitable, contraction be obviated.

LINCOLN COUNTY HOSPITAL

TWO CASES OF TUMOUR OF THE BRAIN

(Under the care of Dr E MANSEL SYMPSON)

THESE cases will prove of interest to many of our readers, although the symptoms and their mode of development are not fully given. In the first case a primary carcinomatous growth was found in the brain, and there does not appear to have been any secondary tumour in other parts of the body. It cannot have existed for the whole period of the illness. Dr Seguin, in writing of cerebral tumours, published a collected list of 580 in which the nature of the disease was proved, only twenty four of these were carcinomatous, therefore these are rare as compared with tuberculous tumours, which numbered as many as 137.

CASE 1.—A female aged sixty six. For four years she had been suffering from increasing paresis of both legs, attended with great increase in the tendon reflexes. She had for about the same length of time been absolutely deaf in the right ear. She was partially deaf on the left side also. She had double optic neuritis, going on to optic atrophy. She suffered severely from headaches, nausea and actual vomiting, and she was often attacked with dizziness. She eventually sank into a comatose condition for some days before death. On post-mortem examination there was found to be a large tumour occupying the surface of the upper and posterior portion of the temporo sphenoidal convolutions, from the fissure of Sylvius to the sulcus between the second and third convolutions. It was of carcinomatous nature and apparently sprang from the dura mater of the temporal bone.

CASE 2.—A young man aged eighteen was first admitted under the care of the late Mr Sympton into the Lincoln County Hospital on Nov 2nd, 1891, and died on June 21st, 1892. History. He was in the hospital for pleurisy eight months ago,¹ and had pain and swelling in the right hip for three months and pain in the right knee.

On admission there was fullness over the right hip-joint and great pain on attempted movement, the thigh was kept rigid and there was tenderness over the anterior part. He started at night. His leg and thigh were put up in an extension apparatus. The note on March 2nd is as follows: "Tubular breathing over the upper part of the front of the left lung and dulness at the left base behind, caries of the fifth right rib, abscesses over the front of the right femur, left elbow joint and over the third right rib." On May 10th there were complete left facial palsy, diplopia on looking to the left, paralysis of the left

external rectus and double optic neuritis, the urine contained one fourth albumen. He suffered from frequent headaches. There was anesthesia of the cornea and of the left side of the face, the condition of the palate was not tested. On June 19th he was unable to retain any food on the stomach whatever. He died on June 21st from exhaustion. At the post-mortem examination one feature of interest was a dried up empyema which had been detected, watched and heard to disappear during life. In the brain was a tumour about the size of a filbert, in the left side of the pons Varolii, pressing on the floor of the fourth ventricle, especially on the roots of the third, fourth, fifth, sixth and seventh nerves. On being cut into it was commencing to caseate in the centre.

Remarks.—The curiously exact limitation of the tumour and the results produced by its pressure seemed worth recording. It is not often that nature permits her cerebral experiments to be so definite. For the sake of compression no details have been given of the surgical treatment. For the notes I have to thank our late house surgeon, Mr Harper, as well as our present one, Mr D G Watkins, who performed the post-mortem examination in a most careful manner.

Medical Societies.

MEDICAL SOCIETY OF LONDON

Symptoms of Mental Dissolution—Constitutional Differences between Boys and Girls and their relation to Educational Requirements

AN ordinary meeting of this Society was held on March 20th, the President, Dr Bristowe, in the chair.

Dr G H SAVAGE read a paper on the Symptoms of Mental Dissolution. He took as the basis of his paper chiefly his experience of seventeen years at Bethlem Hospital, taking out tables of all patients over sixty, these tables were only useful as general indicators of the way in which senile dissolution showed itself. Herbert Spencer had shown the uses of the study of mental dissolution as well as of mental evolution. Natural decay followed certain lines, but these differed in individuals. Premature decay occurred in certain diseases, such as general paralysis of the insane. It also followed certain toxic conditions, such as those due to alcohol. No single symptom was pathognomonic of dissolution, though loss of memory was the most common. In all stages of dissolution there was loss of mental power, which might be shown in different ways and in different degrees, there might be loss of power or loss of control. Dissolution was shown early by reduced power of acquisition, next by reduction of power of retention of recent impressions, next by defect of coördination, later by loss of control and of judgment. Dissolution was, on the whole, the reverse of evolution, but did not follow quite the same lines. He began by an outline study of dissolution as seen in general paralysis of the insane, next with disorders of control of a general kind such as hysteria, epilepsy, mania, melancholia and dementia. In fact, taking the groups of symptoms before the individual ones, he specially noted the danger of impulse in the maniacal and of suicide in the melancholic states. As to special or individual symptoms sudden loss of memory of recent events, varying much in kind and degree, was most important, loss of emotional control was next in frequency and was even more important as leading to sexual faults. There was a tendency to collect objects of all kinds, which might depend on several causes. There was frequently a disregard of cleanliness which was hard to understand. Judgment might remain for a long time after the memory was weakened and the control defective.—The PRESIDENT related two cases which illustrated a point brought out in the paper. One was that of a well known man, who, in the full zenith of his intellect, while stopping in a provincial town had a standing invitation to luncheon at the house of a friend. One day he went in and lunched, and an hour later returned and asked for lunch again, being apparently unaware that he had already had a meal. In another case a gentleman, who had in the morning made all the arrangements for a conversation and supper party in his house for the same evening came home and went to bed, having forgotten all about it.—Dr PASTEUR referred to cases of men who, between fifty and sixty years of age, suddenly developed epileptic convulsions.

¹ This exemplifies the belief expressed by Dr Barrs of Leeds as to the frequency with which phthisis follows an apparently simple pleurisy. I have seen several instances.

was not entirely sunk in the peritoneal cavity or was made of very thick silk. In conclusion, evidence and experience were in favour of the ligature for general use, as the best method for securing the pedicle when ovarian tumours were removed.

Dr WILLIAM DUNCAN agreed with Mr Doran that silk was by far the best and most reliable substance for ligature of the pedicle. At the same time he would like to point out that one of his colleagues at the Middlesex Hospital invariably uses kangaroo tendon, and with excellent results. He (Dr Duncan) thought that inexperienced operators as a rule used silk much too thick and also employed an unnecessary amount of force in tying. His own plan was to transfix the pedicle with a double ligature of medium Chinese twist which had been boiled in a carbolic solution, and, having divided the ends, to cross them before tying. He had lately discontinued the practice of tying the pedicle twice round and found the results equally good, whilst there was, he thought, less likelihood of the ligature setting up subsequent irritation. It was very important that no traction whatever should be put upon the pedicle whilst it was being tied. He considered that by using sterilised silk and crossing the ligatures there was little to be feared from untoward results, even if a vein happened to be transfixed.

Dr LEITH NAPIER alluded to the practice of covering over the raw surface of a large fleshy pedicle with the peritoneal edges and of securing any prominent gaping vessel with a separate fine ligature as affording additional safeguards from hæmorrhage, from absorption through the raw surface and also from post-operation adhesions to neighbouring parts.

Dr WALTER EDMUNDS said that, though Mr Doran classed complicated knots amongst the causes of disaster and commended a silk ligature with the simplest loop and knot, it must be remembered that these conditions were fulfilled in the earlier cases of hæmorrhage, and therefore the hæmorrhage was the cause of the knots and not the reverse. The reason that the ligature did not sufficiently compress the bleeding artery might be (1) that the loop was loose, (2) that the knot had become undone, or (3) that the pedicle had slipped out of the loop. The loop might be loose because the elasticity of the pedicle had distended the loop after the first hitch only had been tied when the ends of the ligature were relaxed (as they must be) to complete the knot. The difficulty could be met by using two ligatures side by side and tying and drawing tight the first hitch on each simultaneously, by which means the resistance to distension would be much increased, or one ligature could be held tight whilst the other was tied. The knot might come undone by the ends being cut too short or by the ligature breaking as the knot was completed. The boiling of silk in an antiseptic solution materially weakened it and made it advisable before using it to test it, not merely by pulling on it, but by tying a knot on it and then pulling. Lastly the pedicle might slip out of the loop, which might be due to its having been cut too short or to the loop being too loose or to the ends of the knot having been pulled upon, to prevent that it was advisable to cut off the ends as soon as the knot was tied.

Dr HEYWOOD SMITH said that after the first tie of a knot had been made it was very important not to put the least strain on the ends whilst the second tie was being made, as the slightest pull made the hitch likely to slip. He asked Mr Doran if any observations had been made as to whether patients who had had the uterine appendages removed were more liable to phthisis and cancer. He had had a case a few years ago where the patient died within two years after such an operation, and in whom there were no apparent symptoms of phthisis previously.

Dr HERBERT SPENCER agreed that silk was the best material for ligature of the pedicle. Hentsch had shown that chronic gut was undissolved after eighteen months and he (Dr Spencer) had found the silk ligature embedded in adhesions one, two and five years after ovariectomy. He thought floss silk greatly superior to Chinese twist, being cleaner, less liable to be damaged by manufacture and it could be tied tighter. In thick pedicles the first cross of the knot should be nipped with forceps whilst the second was being tied. He had never had a ligature come away afterwards.

Dr BOXALL pointed out that it was necessary to take into consideration the friability of the tissues of the pedicle when selecting the material for ligature. A thin ligature cuts through friable tissues like a sharp knife.

Dr LEWES referred to the shortness of the pedicle as an occasional reason why a ligature could not be securely tied.

In a case of this kind he had left a pair of Well's large pressure forceps on the pedicle for forty eight hours, with a satisfactory result.

Mr DORAN, in reply, agreed with Dr William Duncan in preferring silk ligatures to kangaroo tendon. A silk of moderate thickness made a good deep groove directly it was pulled tight, then the ends might be brought round once more. Boiling silk rendered it liable to snap. He found that sterilised silk was best preserved in carbolic acid mixed with oil of juniper and ready mounted on reels. Transfixion of a vein was a distinct danger. He had known fatal phlebitis with abscess in the pedicle after that accident. He agreed that large gaping vessels should be secured, but after ligature of the pedicle it was usually sufficient to fix a pressure forceps to the mouth of the vessel and leave it there till the closure of the abdominal wound. The application of the forceps, one at each end of the pedicle, and the sinking of the pedicle, the ends of the ligature being cut short at once after the tying of the knot, was the right practice. Dr Edmunds was perfectly right in condemning the opposite practice of leaving the ends of the ligature uncut and pulling on them so as to raise and inspect the pedicle at the end of the operation. He (Mr Doran) found a double reef satisfactory and agreed as to the dangers of a second transfixion where the two outer ligatures pulled on the third between them. He recommended the study of the article on "Knots" in the "Encyclopædia Britannica." One class of knots was made to resist traction from outside its loop, as in the case of a rope cable used in the mooring of an old 100 gun ship, but in securing the pedicle resistance to pressure from within was needed, hence the knot had to be tied on a different principle. He did not like the Staffordshire knot, as the loop had often to be drawn over a broken down tumour and the silk might be contaminated by colloid material, malignant cells, pus, dermoid tissue or other impurity, besides he had known it to slip and it was too complicated. He was not aware that phthisis ever followed as a result of ovariectomy, but he had known a fragment of the wall of a perfectly simple ovarian cyst to undergo malignant degeneration. He had not found, like Dr Boxall, that moderately thin ligatures cut through the pedicle of inflamed appendages. The clamping of the pedicle with large pressure forceps rendered the tissues thinner, yet tougher, and able to resist firm ligature. He was glad to hear of Dr H. Spencer's experience with floss silk and hoped that his drawings of the microscopical appearances of old pedicles would be published. He (Mr Doran) had had the misfortune to see two cases of slipping of the ligature with fatal results, and he believed the fault lay in the tying and neglecting to secure the ovarian vessels separately. He had never lost a patient from this accident, though he had known the ligature to slip before the end of the operation and to require readjustment. Fortunately he had secured the ovarian vessels, otherwise a serious amount of blood might have been lost.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY

Exhibition of Cases and Specimens

THE meeting on March 3rd was devoted to the exhibition of clinical cases and specimens the President, F. Swinford Edwards, F.R.C.S., in the chair.—THE PRESIDENT showed (a) a case of extensive disease of the hard and soft palate in a man of middle age. The mucous membrane was affected on the right side, being much thickened and indurated. There was an enlarged gland beneath the angle of the jaw, and the case was regarded as probably malignant. (b) A case of successful wiring of the patella for fracture. The patient had made a good recovery and was rapidly regaining power of movement.—Dr ABRAHAM showed a man, aged thirty, who displayed well marked signs of Leprosy. He had resided in India till 1874 and it was not until 1884 that the first indications of the disease were observed. The skin of the face, hands and arms was thickened and nodular, and examination of an extirpated nodule showed the presence in swarms of the characteristic bacilli. During the eight years that he had suffered four children had been born to him.—THE PRESIDENT drew attention to the debated question of a fish dietary as a cause.—Mr POTTER asked whether there had been enlargement of the glands or blood extravasations.—Dr MUNRO doubted whether an incubative period of forty years, as reported in some cases, was possible. He

had to be used than of the living bacilli. Guinea pigs which had survived the results of the intra peritoneal injection of non fatal doses of the six species were refractory against a second intra peritoneal injection of otherwise fatal doses not only of the same but also of the other species. Thus guinea pigs which had survived a first intra peritoneal injection of the living or sterilised vibrio of Finkler, of the bacillus coli, or the bacillus prodigiosus, respectively, were found refractory against the peritoneal injection of otherwise fatal doses of the living cholera bacilli of ordinary cultures as well as of the "virus fort" of Haffkine. Similarly the repeated subcutaneous injection of the cultures of the sterilised or living vibrio of Finkler, of the bacillus coli, or bacillus prodigiosus, respectively, protected guinea pigs against the intra peritoneal injection of the living cholera bacillus, even of the "virus fort" of Haffkine. The conclusions drawn from these experiments were 1. The experiments on the guinea pigs made by Haffkine with the cholera bacillus were in no way of a specific character. 2. All the above six species contained in their cell substance the same poisonous material, as was proved by their producing the same illness, the same pathological appearances and acting mutually protectively. 3. This intra-cellular poison must be carefully distinguished from the toxins, albumoses and ptomaines formed by the different species in the nutritive media, including the animal body, whilst the intra cellular poison might be the same in a variety of species (e.g., in the above six species), the specific toxins formed by them in nutritive media were different for the different species. 4. A protection produced by a first injection of the intra cellular poison against a second injection of an otherwise fatal dose of the intra cellular poison was not a protection against the specific toxins, as a matter of fact, guinea pigs protected against the intra cellular poison of the cholera bacilli succumbed after intra peritoneal injection of the toxins produced by the cholera bacilli in gelatine cultures.—Dr WOODHEAD said that some of the experiments related confirmed, whilst others went against, the statements that had been made by Haffkine and other workers. As regarded the results produced by these bacilli, there was one feature present in all the experiments which he had seen conducted—namely, a very large effusion of fluid into the small intestine, he thought that perhaps Dr Klein's animals had escaped this because they had died too rapidly. In some cases the fluid in the intestine was mixed with food whilst in others the fluid was clear containing a few cells only. He had noticed that the bacilli had become altered in these experiments, becoming thicker and comparatively straight, but the same thing happened to those left in the culture tube for a further twenty four hours. He did not think that the evidence was yet sufficient to prove that the poison in all was identical, at any rate, the other results produced by these poisons were not identical. In connexion with this it should be remembered that inoculation of saprophytic anthrax would protect against ordinary anthrax, but that the pathogenic results of the two were not the same. The amount of the dose to produce a lethal result depended to a certain extent on the weight of the animal.—Dr SIDNEY MARTIN insisted on the fact that many substances, some of them vegetable, would when inoculated produce a copious exudation of serous fluid into the gut, these poisons were excreted by the intestinal tract. In regard to the chemical part of the paper he much doubted if the intra cellular poisons were all the same. In diphtheria there appeared to be at least two poisons. One was apparently the primary excretion of the bacillus—it was not a soluble chemical product and acted in extremely small doses, it might or might not be a ferment. The second poison was a soluble product formed from the tissues themselves by the action of the primary excretion. He thought that the comparison with tuberculin was not quite fair, that substance was remarkable from a pathological point of view in being the first body ever produced in a liquid form. It would select local foci of disease for its specific action, it might turn out to be an intra cellular by night. His opinion was no part in the production of tuberculin. The note on the upper part of the paper surprised at Dr Klein's conclusion that one of the bases behind, against another, and would hesitate to call it "vaccination" probably in the direction Dr Martin had suggested. It was a condition of extreme

for a certain time antagonistically to the poison of cholera, but this did not imply that complete immunity was produced.—Sir JOSEPH LISTER said that the announcement was startling one, that bacteria of different kinds should be able to protect an animal against Haffkine's most potent when introduced into the peritoneum. If this were so it was an interesting pathological fact, and it would be an interesting practical one if it could be applied. He asked if, when the animal was inoculated with, say, bacillus coli, the protection still extended to it, even though Haffkine's virus was introduced into the intestinal canal.—Dr KLEIN, in reply, said that he had not been able to demonstrate any relation between lateness of death and fluid in the intestine, though the sooner the animal died the less fluid there was in the peritoneum. He could not be sure that the poisons were identical, but the appearances produced appeared to him to be so. The different organisms might possess similar protoplasmic substances, which would act as poisons when introduced into an animal, but the later metabolism of these substances might be different. The terms he had used were meant not in a chemical but in a bacteriological sense. By "vaccination" he meant the production in an animal of a condition which enabled it to resist a dose of poison which a control animal could not resist. He had found that, under certain limits, the longer the test inoculation was delayed the more pronounced was the refractoriness of the animal. This showed that the toleration produced did not wear off quickly, and this, to a certain extent, weighed against Dr Martin's hypothesis.

The following card specimens were shown —

Mr C SLATER (for Dr BEAVER LAKE) The Organs of a Guinea pig Inoculated from the Lungs of Lepers

Dr LEE DICKINSON (1) Stenosis of the Left Bronchus caused by Dilatation of the Left Arterie, (2) Aortic Aneurysm bursting into the Left Bronchus, (3) Simple Gastric Ulcer unusually situated

Dr VORLOCKER Ulceration from Gall bladder into Duodenum and Transverse Colon

OBSTETRICAL SOCIETY OF LONDON

Exhibition of Specimens — Ligature of the Pedicle in Ovariectomy

A MEETING of this Society was held on the 1st inst., Dr Herman, President, in the chair

The following specimens were shown

Dr MCCLEAN Bones from a case of Extra uterine Gestation

Dr SPENCER Three Separate Placentae from a case of Triplets.

Mr ALBAN DORAN Several specimens showing the condition of the Pedicle at different dates after Ovariectomy

The incoming President (Dr Herman) then delivered his inaugural address after which

Mr ALBAN DORAN communicated a paper on Ligature of the Pedicle in Ovariectomy. A case was described where the patient died of phthisis eight years after ovariectomy had been performed by the speaker. Experience had, he said, justified the opinion of some of the earlier ovariectomists that the ligature is the best method for securing the pedicle. China twist silk should be used, and it should not be too thick or too thin to make a good deep groove in the pedicle when tied firmly. The simplest loop and knot were the safest. The outer border should always be secured separately whenever the pedicle is broad or short and in long pedicles where the ovarian vessels are large. The early union of the tissues bulging over the ligature was well known. The absorption of the ligature had been authenticated by Drs Ballance and Edmunds, who, in a case where the patient died eighteen months after ovariectomy, discovered the knot only of the ligature, the loop having been absorbed. The gradual destruction of the silk by leucocytes getting between the fibres had been plainly demonstrated in the case of arteries. The ovarian pedicle was still better placed to allow that process to go on undisturbed. Alleged disadvantages of the ligature were mostly due to its unskilful application and rough handling, or to the silk being too thick or complicated by knots. The pedicle of an ovary and tube removed for chronic inflammatory changes was less favourable for ligature than was the pedicle of a cystic or solid tumour of the ovary. An analysis was given of cases quoted in text books and elsewhere to show the supposed disadvantages of the ligature. In some the pedicle was not that of an ovarian tumour, or the ligature

2. That in purely sensory nerves stretching is at best but a temporary expedient, and either should not be undertaken or, if having once been performed and followed by a return of pain, should not be repeated. 3. That the reasonable treatment in trifacial neuralgia of an extreme character is neurectomy and that, whilst the operation on divisions of the fifth nerve external to the cranial cavity may be regarded as an established procedure, the ultimate operation of removing the Gasserian ganglion must still be regarded as on its trial. 4. That avulsion should only be practised as a part of an open operation, and that, as originally proposed by Professor Thiersch, it should only be undertaken when an open operation is for sufficient reasons impossible or in expedient.—Mr SWAN confessed that it appeared to him that until the seat of the lesion in the nerve could be accurately localised it was to some extent working in the dark to remove any part of it on the chance of curing a neuralgia.—Mr BROOKS had a similar case under his own care. It was that of a man forty eight years of age, whose superior maxillary division of the fifth was affected for over seven years. He had tried a good many remedies with only transient relief. He found the bony wall much thickened and denser than usually met with in the dead subject. This, he thought, bore upon the observation made by Mr Swan as to the localisation of the seat of disease. Here the pain was localised in the terminal branches of the nerve about the incisor and canine teeth which are supplied by the anterior dental nerve. Consequently it was evident that the lesion of the nerve did not go back to the foramen rotundum. He believed that it was impossible to remove the entire Cæsarean ganglion without opening the cavernous sinus.—Mr FRANKS did not think, in stretching a nerve, that it made much difference whether the nerve was sensory alone or sensory and motor combined. He had seen great benefit from stretching the sciatic nerve in the manner introduced by Bulroth.—Mr STOKER, in reply admitted the importance of accurate diagnosis, but he did not think the situation of pain a definite indication of the portion of nerve engaged. He did not think there was any danger in removing the nerve behind the sphenopalatine ganglion.

SECTION OF OBSTETRICS

Specimens—Case of Spina Bifida successfully treated with Iodo glycerine—Abdominal sections

A meeting of the Section of Obstetrics was held on February 3rd, Dr Atthill in the chair.

Mr GLYNN exhibited for Dr W J Smyly a specimen of Sarcoma of Uterus. The patient, aged sixty was admitted in January and curetted, the scrapings were examined by Dr Earl and pronounced to be sarcoma. The patient left the hospital, and for domestic reasons was unable to return for a month. On examination a polypus was found projecting from the os, which was removed and sent to Dr Earl, who reiterated his former opinion. The patient suffered very much from profuse hæmorrhage. On Feb 3rd vaginal hysterectomy was successfully performed. Mr Glynn also brought forward a case of Double Ovariectomy. In this case the right ovary was easily removed, but the left gave trouble, being strongly adherent to the descending colon. Recovery ensued.

Dr ALFRED SMITH showed tubes and ovaries which he removed from a patient, aged thirty four, who suffered from a bleeding Fibro-myoma of the Uterus. As a preliminary treatment he curetted away the fungous endometrium the week previously to the operation. The patient was doing well.—Mr MCARDLE wished to know the relative mortality on the removal of fibroids as compared with that on the removal of the ovaries.—Dr SMITH in reply said that in laparo-myotomy the mortality was 1 in 4, whilst in removal of the ovaries and tubes for myomas it was roughly 1 in 10 or 1 in 15.

Mr McCULLAGH then read a paper on a case of Spina Bifida successfully treated with Iodo-glycerine. The child—a male now five years and two months old—was not brought under the notice of Mr McCullagh until it was ten months old. There was then in the lumbo-sacral region an ovoid tumour four inches long three broad, and elevated from two inches and a half to three inches over the surface, the long axis of the oval corresponding to the vertical line, it was sessile translucent, marked with white bands, fibrous in character coinciding with depressions on the surface of the tumour as if they constricted it. Mr McCullagh, having determined to operate, selected the operation best known in connexion with the name of Dr

Morton—namely, after the withdrawal of some of the sub-arachnoid fluid, the injection of a solution of 10gr iodine with 30gr iodide of potassium in an ounce of glycerine for the purpose of exciting local inflammation. This operation however, he modified, finding the withdrawal of the fluid was followed by a convulsion, he found that he obtained quite as much flaccidity in the tumour by laying the child on its face, with the hips raised. Next he found that where he had made the injections completely through the coverings of the tumour the effect was either *nil* or only slight circumscribed meningitis, whereas in those injections where the penetration was not perfect, as at the margins and the white fibrous bands already mentioned, small patches resembling the islands in skin grafting were produced. He therefore confined himself altogether to dealing with the bands and the edges of the tumour, with the result that the whole tumour was soon covered. He then ceased the injections and painted the surface over with a double strength solution with the result that the covering thickened and soon assumed the indurated condition which was present when the members saw the child exhibited. Mr McCullagh's conclusions were 1. That the subsequent meningitis developed in many cases treated by iodo glycerine was due to the intra saccular injections. 2. That neither they nor the preliminary evacuations of the contained fluid are necessary. 3. That Dr Morton's method as modified is not only incomparably safer, but gives a result as good as could be hoped for from the most successful plastic operation.—Mr MCARDLE referred to a case which he himself had exhibited of large spina bifida, which recovered spontaneously, but only after a long and painful illness. He said that the treatment which Mr McCullagh had so successfully carried out was certainly devoid of any element of danger.

PROVINCIAL MEDICAL SOCIETIES

BRADFORD MEDICO CHIRURGICAL SOCIETY.—A meeting of this Society was held on March 7th, Dr J H. Bell, President, in the chair.—Mr HORROCKS read notes of a case of Ectopia Vesicæ, which he had studied by means of frozen sections. He described the anatomy of the malformation, which he regarded as due to failure of the closure of the urachus at the umbilicus.—Dr GOYDER gave his experience with Salol, which, he said, is not absorbed from the stomach, but split into its two components in the intestine, salicylic acid being excreted in a combination in the urine. It was not so useful as an anti rheumatic as it was as an intestinal and urinary disinfectant, he particularly used it in cases of pseudo-dysenteric nature and pyelitis.—Mr ALTHORP read notes of the case of, and showed the Bladder, from a man aged seventy-seven, who suffered from enlarged prostate and calculus. Sixteen years ago he had had lateral lithotomy performed and a 164gr calculus removed. Later lithotomy was practised, and six months after that lateral lithotomy again and a 184gr calculus was removed. He had not been well after, and three months ago a calculus was removed by the supra pubic method, prostatectomy was deemed inexpedient. He did well till the seventeenth day, when, without fever, delirium set in and lasted till death on the twenty eighth day.—Dr ADOLF BROXNER read a paper on Disease in the Naso-pharyngeal Cavity. He insisted on the permanent effects of even passing disease.—The following specimens were exhibited: Broad Ligament Ovarian Cyst, removal followed by melan cholla, Dilated Tube from Chronic Salpingitis, Tuberculosis of Urinary Tract and Heart from case of Ulcerative Endocarditis, Preparations from Spinal Cord in Myelitis.

MANCHESTER MEDICAL SOCIETY.—At the meeting of this Society held on March 1st, Mr F W Jordan Vice-President, in the chair. Dr MILES made some remarks on Acute Tonsillitis in its relation to Rheumatism, illustrated by references to the clinical history of a number of cases. As regards treatment, full doses of tincture of perchloride of iron every two hours, with wine to adults and avoidance of exposure to any chill proved most successful, and since adopting such measures Dr Miles had never met with rheumatic sequelæ.—Mr F A. SOUTHAM drew attention to the operation of Supra pubic Cystotomy and mentioned a number of cases to illustrate the different conditions in which the operation was indicated.—viz. (1) For the removal of tumours of the bladder, (2) in cases of calculi where lithotomy was contra-indicated by the large size of the stone, or its encysted position, or when associated with enlargement of the prostate, (3) in cases of prostatic retention where palliative

considered it remarkable that the patient should have progressed since he had been suffering from the disease, the testicles, as a rule, being early affected and sterility resulting. He regarded the fish theory of causation as absolutely without foundation.—Dr MORGAN DOCKRELL referred to the fact that sexual appetite was, as a rule, not wanting in lepers, though power of propagation was impaired.—In reply, Dr ABRAHAM said that glandular enlargement and extravasations were absent in this case. He, too, thought that a fish diet had no causal connexion with the disease.—Mr BIDWELL showed a lad, aged nineteen, in whom a compound comminuted fracture at the lower end of the humerus had been caused by the crank of a steam engine. On his admission to the West London Hospital there was found a contused wound about three inches long on the outer side of the arm and a smaller one on the inner side, the skin and surface of the wounds were covered with engine grease and dirt, and some fragments of bone were lying loose in the wound. Three or four of these were removed and the ends of the bone united with silver wire. The edges of the wound were freely pared, and after irrigation with perchloride of mercury solution were brought together with silk suture, no drainage tube being used. Cyanide dressings were employed and the limb enveloped in plaster of Paris. It was not dressed for a fortnight, and then both wounds were found to have healed by first intention. The splint was left off at the end of a month, and the movements of the arm are now perfect.—A patient under Mr BIDWELL'S care, a man aged sixty, suffered from Epithelial Crypts of the Palm. On the left hand a probe could be passed a quarter of an inch into one crypt, here there was also some Dupuytren's contraction opposite the fourth finger. On the right hand the opening was much smaller, a little swelling could be felt and a fine probe passed in half an inch. Here there was no Dupuytren's contraction. They were painless, and patient did not know how long they had existed. Mr Bidwell suggested as a possible cause that during his work of bricklaying some slight injury might have been done to the skin, epithelial cells being driven in and forming an epithelial tunnel. He compared them to implantation "dermoids".—Dr BATTER and the PRESIDENT considered the Dupuytren's contraction a more probable cause.—Mr R. LAKE showed a case of Lupus of Larynx, Pharynx and Soft Palate. The epiglottis was almost destroyed and the right ventricular band was affected, though the vocal cords still remained free. The case was of two years' duration and had at one time improved under a saturated solution of lactic acid. The present local treatment consisted of aristol and salicylic acid.—Dr CLIPPINGDALE showed a young girl who presented numerous small flattened sessile Epithelial Nodules on the skin of the forehead, chin and forearms, which had existed since last September.—Dr ABRAHAM regarded the growth as of a warty nature.—Mr KEETLEY brought forward a case for diagnosis. The patient was a young girl, and presented a growth apparently beneath the fascia in the muscles of the forearm. It was oval in shape, about two inches and a half in length and rather less in breadth, soft and giving to the touch an obscure sense of fluctuation. Mr Keetley said he had come to no definite conclusion as to its nature, but intended to cut down upon it with a view to its removal.

ROYAL ACADEMY OF MEDICINE IN IRELAND

SECTION OF MEDICINE.

Some Points in the Treatment of Phthisis—Clinical Experiences

A MEETING of the Medical Section was held on Jan. 27th, Dr H. Benson in the chair.

Dr WALLACE BEATTY exhibited two patients, both being females with Lupus Erythematosus.

Mr DENHAM then read a paper entitled "Some Points in the Modern Treatment of Phthisis".—Dr NIXON said that cases of phthisis amongst the poor might be divided into those which were curable and those which although incurable, might be relieved as regarded the most distressing symptoms and have their lives prolonged. The cases coming under the first class were very few. There was not a sufficiently good combination of circumstances as regarded climate to give them a favourable chance of recovery whilst resident in Ireland. The second class of cases could be well treated in the wards of a general hospital.—Dr J W

MOORE differed from Dr Nixon. He thought the climate of Ireland fulfilled all the desiderata for the treatment of phthisis which were asked for by Dr Nixon, and with the single exception of humidity, more so than any other place. He thought that patients belonging to Dr Nixon's second class should not be admitted to a special hospital whose object was to give those who had a fair prospect of cure a chance. These patients could be received into the Royal Hospital for Incurables or into the Hospice for the Dying. In the proposed new hospital each patient would have a separate sleeping apartment.—Dr NINIAN FALKNER thought that cases of phthisis should be removed from crowded tenement rooms, and if this were done the death rate from phthisis would be lower.—Mr DENHAM, in replying said that when he commenced to investigate the subject of the new hospital he was strongly prejudiced against it, but that as he proceeded in the study of the subject he became a firm believer in it. He thought ordinary hospitals were defective for treating phthisis in the following points. First, the temperature was not constant, secondly, the cubic space allotted to each patient was insufficient, and, thirdly, the diet was unsuitable. He thought the patients suitable for admission to the new hospital would be those in whom the physical signs were not marked. He repeated the decision of the tenth Medical Congress held at Berlin, which was strongly in favour of treating pulmonary phthisis in special hospitals.

Dr J W MOORE detailed notes of a series of five cases selected from those which had come under his observation during a recent period of clinical duty at the Meath Hospital, lasting from Oct 1st to Dec 31st, 1892. Whilst they were, no doubt, types of the every day clinical experiences of a hospital physician, the cases threw more or less light upon obscure features in diagnosis and pathology, and illustrated some practical points in treatment. Hence their selection. They were as follow—(1) Axillary abscess in an infant simulating scarlet fever, (2) septic peritonitis from rupture of a small ovarian abscess, (3) retro pharyngeal abscess in a man aged forty five years, (4) a case illustrating the short incubation and invasion of scarlet fever, (5) thoracic aneurysm perforating the pericardium.

SECTION OF SURGERY

Splints—Operative Treatment of Trifacial Neuralgia

A meeting of the Surgical Section was held on Jan 20th, Mr Hamilton, President, in the chair.

Mr HERCULES MACDONNELL read a paper on Splints, showing a modification of Liston's long splint and of the box splints for application to fractures of the leg, and claimed, from a long experience, advantages from those splints.—Mr THOMSON said that he preferred the simpler and less expensive plaster splint to any elaborate appliance.—Mr MACDONNELL admitted the efficiency of the plaster splint, but said that cases arose in which it could not be applied.

Mr THORNTON STOKER read a paper on the Operative Treatment of Trifacial Neuralgia, in which he briefly reviewed the recent work which has been done in this direction, and advocated operation on the fifth nerve in those extreme cases of epileptiform tic which had failed to yield to other treatment and were so severe as to destroy comfort or threaten life. He reviewed the various methods of neurotomy, stretching, avulsion, and neurectomy, and argued in favour of one or both of the latter as the best plan of operative treatment. He decried neurotomy as an uncertain and halting treatment, almost sure to be followed by a return of the neuralgia. He opposed stretching in the treatment of purely sensory nerves, as a mere temporary expedient. The paper dealt specially with cases in which he had removed the infra orbital and gustatory nerves. The operation he advocated in removal of the infra orbital nerve, and which he had performed with a perfect result, was the orbital method of Wagner and he exhibited two instruments he had devised to facilitate its performance—one a retractor to lift the perosteum and contents of the orbit, the other, an instrument to free the nerve from its relations. In removal of the gustatory nerve he had employed the method of Paravacini, which he advocated as much less formidable than the retro-orbitary or transmaxillary operations and as giving sufficient access in most cases—the exceptions being those instances in which malignant disease had so much intruded on the mouth as to render the buccal operation impossible. He concluded 1. That in cases of trifacial neuralgia demanding operative treatment neurotomy is not usually a satisfactory or efficient operation.

Vision," referring to the pitfalls that beset the general practitioner, such as headache from astigmatism, iritis treated as neuralgia &c., and gave a *résumé* of the chief difficulties in this direction and the methods with which to guard against them.

Reviews and Notices of Books.

A Treatise on Public Health and its Application in different European Countries. By ALBERT PALMBERG Doctor of Medicine and Surgery, Medical Officer of Health for the County of Helsingfors in Finland, Vice President of the Hygienic Society of Finland &c. Translated from the French Edition, and the Section on England edited by ARTHUR NEWSHOLME M.D. Lond. D.P.H., Medical Officer of Health for Brighton &c. With 182 Illustrations. London Swan Sonnenschein and Co. New York Macmillan and Co. 1893

This is not only a very useful book, but it is unique in its way, a careful comparison is instituted between the sanitary organisation and practice of different continental countries and those of this country, and information is given on many points of practical detail from which the English hygienist may ascertain the various methods of procedure abroad and compare them with those adopted at home.

The author, in his preface to the English edition, says that the favourable reception of the work has far surpassed his expectations, and that—the original Swedish edition having been already succeeded by a French one—Spanish and English editions have now been asked for. For the purpose of securing a more accurate description of all the details of English sanitary legislation and administration, Dr Palmberg has obtained the aid of Dr Arthur Newsholme, who is actively engaged in sanitary work, to bring up to date and complete the chapter relating to England, especially that portion of it bearing on recent legislation, and we may say at once that this seems to have been thoroughly well done. As regards the general character of the book, it may be stated that its practical spirit is best indicated by the remarks in the author's preface. Public hygiene is perhaps more empirical than are other sciences. The putting in practice of theoretical views has often produced results different from those which were expected. Practice showed that the best way of avoiding the evil results from sewer air was not to hermetically close the sewers but to provide for their good and active ventilation, combined with frequent and abundant flushing. Again, theory speaks against the irrigation of fields by sewage, on the supposition that the pathogenic organisms contained in it, when exposed to the sun, would produce an extensive propagation of infectious diseases. Practice has shown the error of this view, and it is now experimentally proved that irrigation is the most effective method for the destruction on a large scale of pathogenic micro-organisms. The importance of practice is therefore, says the author, considerable in sanitary science, and this "Treatise on Public Health" is based upon his conviction of this truth and of the enormous value of a complete knowledge of sanitary arrangements proved by experience to be good. The description of the sanitary organisation of different countries is mainly based upon official information placed at Dr Palmberg's disposal and appears to be exact and reliable. The sanitary laws, systems and appliances described or referred to include those of England and especially London, Scotland, Belgium, France, Germany, Austria, Sweden and Finland. The subjects of statistics and the importance of public hygiene as shown by the mortality from general causes and from typhoid fever in different countries, mortality in armies and in great cities and towns and cholera in its relation to sanitary organisation, and a good bibliography and index, complete the volume. We should also add that the work is well and even profusely illustrated.

The section on England is, as we have already said in effect, comprehensively and well executed. It is gratifying to notice that this country receives its full meed of recognition and praise, it being said that of all countries in the civilised world none has a sanitary code so complete and precise as England, and that no nation has appreciated so thoroughly as have the English the importance of fresh air. It is declared to be one of the causes which have made the rate of mortality lower in Great Britain than in most continental countries. The chapter on Paris affords a good deal of useful and interesting information. Experiments made in that city fully demonstrate, that if sewers are to be prevented from diffusing bad smells they must be kept free from deposits, carefully ventilated and cleansed. It has been proposed to close the openings in the streets and to employ ventilating shafts for the removal of sewer air. But the author is of opinion that such appliances only act on a small length of sewer, besides being complicated and difficult to manage. Ventilation is most effectually secured, he considers, by making numerous openings of sufficient size. If it is desired to place traps in the openings to the sewers from the pavement, the openings for ventilation must, he says, be placed in the road over the sewers. Speaking of the proposal in England to ventilate the sewers by means of shafts opening above at the gas-burners of the public lamps in the streets, it is remarked that this has not been found advisable, as, when the gas is not burning, the exit of foul gases at such a low level might produce a serious nuisance. A description of the sewage farms at Gennevilliers and D'Achères and their working is given, together with some observations on the action of land upon sewage and pathogenic organisms as deduced from practice and experiments. The land at present used by Paris for the irrigation of sewage covers too small a surface. We had marked quite a number of passages for quotation or reference, but to collate and pass in review even a small number of the facts and observations comprised in this volume would extend our notice to too great a length. We trust that we have said enough to show that, in our opinion, it is a most useful work, and especially valuable to the English hygienist who desires to ascertain and compare the various methods of sanitary procedure on the Continent with those in use in this country.

The Chemical Basis of the Animal Body an Appendix to Foster's Text book of Physiology. By A. SHERIDAN LEE, F.R.S., University Lecturer in Physiology in the University of Cambridge. London Macmillan and Co. 1892. Pp. 290.

A WORK like the present was much needed. The last really good text-book of the physiological chemistry of the animal body was written by Professor Arthur Gamgee, and was published in 1880. Twelve years have therefore elapsed since the appearance of that work, during which time much has been done, and it required a competent teacher to collect the facts that are distributed through many journals and to present them to the student in a readable form. The bibliography, which is copious, includes references to a very large number of the papers recently published in Hoppe Seyler's *Zeitschrift für Physiologische Chemie*, Pflüger's *Archiv* and the French and English journals of *Anatomy and Physiology*, and is consequently brought well up to date. It differs from Professor Gamgee's work in that it deals only with the chemical constituents of the body, and does not pretend to give the full description of the chemical composition of the various fluids and solids of the body—such, for example, as the blood, gastric juice and urine,—though their chief constituents are separately discussed. The plan pursued is that in the first instance the proteids are classified and their chemical characters given, the group being divided into seven classes. Native albumens, derived albumens, globulins,

treatment failed to afford relief and self catheterism was impracticable either as a means of draining the bladder or with a view to prostatectomy, (4) in obstinate cases of chronic cystitis, especially when tuberculous—Mr WALTER WHITEHEAD read a paper on Aseptic Details in Surgery—At the meeting on March 13th, Mr F W Jordan Presided, and Dr WHITE related the case of a man who, whilst repairing a strap which was lying loosely round a revolving shaft, had his hand carried between the strap and the shaft, causing Dislocation of the Lower end of the Ulna forwards. The symptoms were—extreme narrowness of the forearm, as though both bones had been pressed close together, the hand in a state of moderate supination, rigidity of the wrist-joint, absence of usual prominence of the ulna and in its stead a great gap. The head of the ulna could be seen and felt lying upon the front of the lower extremity of the radius, the radius was in its normal relation with the carpus. Reduction was effected under chloroform by means of powerful extension and counter extension and pressure of the displaced head in the direction of the sigmoid cavity. The forearm was kept in splints for about a fortnight, the bone has shown no tendency to re-displacement, and at the present time (two months after the accident) the limb is as useful as ever. This appears to be the thirteenth recorded case of this injury. Malgaigne collected records of nine cases and Hamilton of three, one of which he saw himself—Mr WHITEHEAD gave an account of a Fibroid Tumour he had recently removed in the Royal Infirmary from the thigh of a youth twenty years of age. The tumour measured eight inches in length and three in diameter. It was detected five months previously to admission as a hard tumour in the popliteal space, extending upwards between and partly lost behind the hamstring muscles. In dissecting out the tumour it was found to be intimately adherent to the popliteal vessels and to follow them upwards to its full extent. Eight inches of the nerves were completely detached from their surroundings during the operation and were ultimately left in an isolated condition in the wound. The tumour apparently originated from the periosteum of the femur, but probably an intra muscular septum might have been responsible for its origin and microscopically it was evidently an ordinary fibroma. The function of the popliteal nerve was not in the slightest degree affected by its disturbance and separation from its natural attachments—Mr Wm COATES and Mr G A. WRIGHT showed a Vermiform Appendix and Fecal Concretion removed by operation from a man of twenty eight who had suffered from seven attacks of recurrent appendicular peritonitis. The patient recovered.

MANCHESTER PATHOLOGICAL SOCIETY—A meeting of this Society was held on March 8th, Dr Judson S Bury, President, in the chair—The PRESIDENT related the history and showed specimens of the following case. A man aged forty one received a blow on the top of the head a year before death. He was unconscious for half an hour, but continued at his work for three months. A few weeks after the blow his sight began to fail and he suffered from headache. Later his left arm and subsequently his left leg became weak. When seen about six weeks before death there was slight weakness of the left limbs, double optic neuritis, mental dulness, and constant right sided headache. He became worse, and a week before death developed complete left hemiplegia and passed into a state of coma. At the necropsy a vascular sarcomatous tumour occupied the first right frontal convolution. The surrounding brain substance and the white matter beneath, particularly the fibres of the internal capsule, presented acute softening. No evidence of damage to the skull was discovered, but a small exostosis was situated just above the middle of the tumour and possibly determined its position if it be allowed that the tumour was started by the injury from the blow—Dr EMERY JONES exhibited microscopical specimens of (a) Sarcoma of the Choroid, (b) Glioma of the Retina, (c) Lupus of the Conjunctiva—Dr ROBINSON and Dr MENZIES showed and described preparations of Brain and Spinal Cord, prepared by Golgi's Method—Dr BROOKE showed preparations from a case of Tuberculosis of the Skin.

SHEFFIELD MEDICO CHIRURGICAL SOCIETY—A meeting of this Society was held on March 9th, the President, Mr Simeon Snell, F.R.C.S. Edin., in the chair, at which Mr PYE SMITH showed two cases of Excision of the Wrist. In one, that of a girl with pulpy disease of the right carpus, without sinuses, of eighteen months' duration all the carpal bones except the trapezium were removed, with parts of the metacarpals and of the radius and ulna, by a single dorsal incision. Passive move-

ments were commenced on the third day and the wound soon healed. Now, three months after the operation, there was remarkably little deformity. The patient could write well and had a very useful hand. The other case was that of a boy with caries of the left carpus, sinuses and swelling of three years' standing, following a crush. It was similarly treated and was resulting in a useful hand, though the sinuses were not yet healed. Mr PYE SMITH also showed a man with a large Hunterian Chancre on the Left Eyebrow. The patient had received an injury there in a scuffle a month before the appearance of the chancre. When first seen, a week later, the chancre was nearly an inch in diameter, there was a hard gland in front of the ears and a faint macular rash on the chest and abdomen—Dr BURGESS read the notes of a complicated case of Heart Disease. In addition to mitral stenosis and tricuspid regurgitation with large pulsating liver there was a diastolic murmur heard loudest in the second left interspace and conducted to the left, but not heard to the right of the mid sternal line nor below the third interspace. The cyanosis, dyspnea, hypertrophy of the right ventricle and tricuspid regurgitation were explained by the mitral stenosis and could not therefore be cited in support of pulmonary regurgitation. The pulse was not decisive, but the fact that the valvular lesions resulted from rheumatic endocarditis was strongly in favour of aortic regurgitation—Dr WILKINSON showed the kidneys and bladder, with a large stone nearly filling it, of a man who died from Suppression of Urine. He also showed several large Vesical Calculi which Mr Thorpe had recently removed by operation—Mr DALE JAMES read a short paper with the view of assigning to diet its proper place in the treatment of Cutaneous Affections. The question of food was doubtless important in acute dermatitis, but chronic skin diseases such as psoriasis did not in his opinion require special dieting. The very variety of diet tables recommended proved that there was no ascertainable rule in the matter—Dr SINCLAIR WHITE read a paper on Hernia in Childhood and showed fifteen children who had been operated on at the Children's Hospital and elsewhere for radical cure. Thirteen of these were cured and two very much improved. Professor MacEwen's method of dealing with the sac was adopted in every case—Dr WHITE advised operation in all children not cured by the careful and continuous use of a truss for twelve months, or where for any reason, a truss cannot be worn. The operation was based on sound principles, it was singularly free from risk to life and gave excellent results.

ULSTER MEDICAL SOCIETY—The fifth meeting of the session was held on March 8th, at the Museum, College-square North, Belfast, the President, Dr Whitaker, in the chair—Dr CALWELL showed a case of Pityriasis Rosea in a woman aged forty six. The eruption began two months ago on the inner side of the right thigh, from which it spread all over the trunk, the face, the neck and the extremities, the parts below the knee and elbow remaining free. The eruption is now characterized by pinkish red rings of varying sizes, gyrate lines, and patches very slightly raised and with slight and rather faint desquamation, the borders are well defined, and the centres of the circles have a faint fawn colour, there is some itching, more especially at night, and the eruption is fainter on the trunk than formally, but is still well marked on the thighs, and a few circles have lately appeared below the knee. It spread all over the body in about two weeks. Little or few constitutional symptoms were complained of, and no fungus was discovered under the microscope. It was evidently the variety pityriasis rosea circinata. He showed two cases of Lupus: one with a very tumid condition of the upper lip, the disease spreading to the gums and palate, the other a very superficial form on the neck. He recommended strongly, where there is no operation the application of carbolic acid and continuous boracic poultices—Dr ST CLAIR BOYD showed a large Multilocular Cyst, which with great difficulty, owing to adhesions from five previous tappings, he had successfully removed from a patient. He also showed the appendages he had lately successfully removed from another patient for hæmorrhage and pain, rendering her life useless and burdensome—Dr W H THOMPSON read a paper on the Physiological Action of Atropine and Morphine on the Secretion of Urine. It was a description of some of his work in the Physiological Laboratory at Leipzig, embracing eleven experiments on dogs. He showed that both atropine and morphine diminished the quantity of urine and the quantity and the percentage of urea, but increased the quantity of nitrogen of other products—Mr CECIL SHAW read a paper entitled "Notes on some Common Defects of

work as the present is nothing if it be not complete. In addition to the kind of information usually to be found in "Year Books," we have here and there articles which may be almost described as essays. Moreover, there is a section devoted to information concerning hospitals and the staffs of hospitals in the colonies, another dealing with institutions of a similar kind in America, and yet another concerned with societies engaged in philanthropic work. Of course, in such a repertory of facts and figures as the one under review errors will occasionally creep in, but, so far as we have been able to observe, inaccuracies are few and far between.

THE *Medical Register* for 1893 was published on the 20th inst. and can be obtained from the General Medical Council's publishers (Messrs Spottiswoode and Co Gracechurch street, E.C.) From the statistics supplied amongst the preliminary matter there will be seen the continued growth of the medical profession. During 1892 no fewer than 1513 newly qualified practitioners registered their names against 1345 in the preceding year, and the total number of practitioners in the United Kingdom, which at the beginning of the year 1876 was 22,200, has now risen to 30,590. This increase in numbers has been attained notwithstanding an average annual death rate of 569 or an average annual removal from the Register, from all causes, of 834 names. Of the 30,590 practitioners whose names now appear in the Register, 18,622, or 60.88 per cent., were registered in England, 7320 or 23.93 per cent., were registered in Scotland, and 4648, or 15.19 per cent., in Ireland. The new Colonial Register, instituted by the Medical Act 1886, now contains fourteen names, representing the Universities of Melbourne, Sydney, New Zealand and Bombay the last of which was recognised by the Council last year in consequence of the extension of the Act to India by Order in Council. The correctness of the Medical Register, so far as it is possible to ascertain it, has been ensured by the thorough revision to which it has again been subjected.

The *Dentists Register* and the *Medical Students Register* for 1893 have been some time published and are now on sale by the same publishers. Advantage has been taken of the issue by the Council of a resolution in regard to "covering" to send to all registered dentists an inquiry form to ensure the correctness of their addresses and qualifications, and, as a result of this inquiry, the information in the *Dentists Register* is more than usually accurate. The total number of names now appearing in this Register is 4817 as against 4896 in the Register for 1892, being a decrease of 79 probably due to the thoroughness of the revision. Of the 4817 registered dentists an increasing proportion are Licentiates in Dental Surgery of the several Colleges, the percentage of such dentists being now 25.43, as against 24.07 last year, showing a marked increase from the 10.74 in the Register for 1881. On the other hand, the percentage of dentists whose names appear with no such qualification has further decreased from 75 in 1892 to 73.49 in 1893—a marked diminution from the 89.26 of 1881. The *Medical Students Register* shows a decided decrease in the number of those who are entering the profession, 734 fewer students registering in 1892 than in 1891, the total number being 1671, which is lower than for any year since 1876. Complete information is furnished as to the various examinations of the preliminary examining bodies on which the students registered and the various medical schools at which they commenced their professional study.

MEDICAL MAGISTRATE—Mr Henry Monckton, M.D. Lond., F.R.C.S. Eng. has been placed on the Commission of the Peace for the borough of Maidstone by the Lord Chancellor of England.

New Invention.

NEW FORM OF BULLET EXTRACTOR.

FINDING that most existing bullet forceps are unsuitable



and unsatisfactory for the extraction of the new compound bullet Surgeon-Major Macnamara suggested to Messrs Arnold and Sons a modified form of grip forceps which upon trial have been found to answer extremely well. The extracting forceps overcome many difficulties hitherto presented. The form of grip represented in the engraving grasps firmly and holds a bullet securely in whatever position it may be caught. The bullet cannot rotate or slip when the forceps are closed upon it. Another important feature is that the end of the improved forceps is perfectly smooth and forms a probe, in fact, the instrument is a bullet probe and extractor combined. It further possesses the advantage that it is not liable to tear or injure the tissues. This particular grip will, it is believed, extract not only the new bullet, but will be found useful in the removal of bullets of any shape. Foreign substances also of whatever nature, can be grasped and removed by its intervention.

VOYAGES FOR HEALTH'S SAKE

To the Editors of THE LANCET

SIRS,—I wish from this side of the world to enter a protest against the indiscriminate shipping to these colonies of invalids, more especially those who are suffering from phthisis. Each year, about October, certain sailing ships which have the name of being "invalid ships" leave England for Australia, arriving here in our very hottest months—January or February—when the temperature in the shade is often 104° or 105° F. The trip generally takes from ninety to 100 days, out of these about half are in warm climates. If practitioners at home would consider that their patients would be shut up in stuffy cabins and saloons, with ports sometimes closed for days together, surrounded by fellow passengers in all stages of phthisis in an atmosphere which must necessarily reek with the bacilli of tubercle, and give heed to other circumstances I am sure they would think twice before recommending such a trip. Each year patients come out who have left home with only slight mischief, but who on arriving here are in the last stages of phthisis, having slept probably in the same cabin with a patient who may have been far advanced with phthisis on leaving home, and they have to die out here away from friends and home comforts. Only a few days ago I saw a young fellow who had left home with slight physical signs at one apex, who, on arriving here, was simply dying of general tuberculosis. On recommending him to return by the fastest mail boat the following day he went back to his hotel and committed suicide by shooting himself being so depressed at the idea of another voyage. The best voyage to take for health's sake, I should say would be by a steamer coming round the Cape of Good Hope, with plenty of cabin space, good food and a thoroughly qualified medical officer on board.—I am, Sirs, yours truly,

R. HUMPHREY MARTIN M.B. Cantab, M.R.C.S.
Adelaide, South Australia, February 12th, 1893.

fibrins, coagulated proteids, albumoses and peptones, and lardacein or amyloid substance. Next the enzymes are considered, including ptyalin, amylpsin, pepsin, trypsin, pialyn or steapsin, rennin, fibrin ferment, muscle enzyme and urea ferment, and then the nitrogenous non crystalline bodies allied to proteids, such as mucin, gelatin, chondrin, elastin, keratin, neurokeratin, chitin and nuclein. Then follow the carbohydrate, the fatty acids and the fats with their allies. The amides and amido acids come next, with urea and the uric acid group and the aromatic series. A short section is devoted to the ptomaines, and the remaining pages are occupied with an account of the colouring matters of the blood, bile and urine. In many instances—as, for example, in glycine, sarkosine, taurine and kreatin, and in the alloxan and allantoin series—the graphic as well as the molecular formulæ are given, which is of advantage, since it enables the industrious student to comprehend the process of the derivation of these complex substances from the more simple compounds and to understand their chemical relations, providing only that he has been already well grounded in the chemical laboratory.

It is difficult to select any particular section, where all are good, to show the mode in which Mr. Lea treats his subject, but we may take the glycolic acid series as an example. "Lactic (hydroxy propionic) acid ($C_3H_5O_3$). Thus, after carbonic acid, is to the physiologist the most important acid of the series. If lactic acid be regarded as derived from propionic acid (CH_3CH_2COOH), it may be noticed at once that two isomeric lactic acids must be capable of being formed from it. These acids will have the following formulæ respectively $CH_3CH(OH)COOH$ and $CH_3(OH)CH_2COOH$. Of these the first is known as ethylidene lactic acid, the second as hydracrylic acid. In addition to the above, a third acid—isomeric with ethylidene-lactic acid—is known, namely, sarcocollactic or paralactic acid. Of these three acids only two occur in the body, hydracrylic acid being absent. A fourth acid, to which the name of ethylene lactic acid has been given, has also been described as isomeric with hydracrylic acid. It is, however, probable that this acid is really acetyl lactic acid, hydracrylic acid being the true ethylene lactic acid."

The several forms of lactic acid are then described with their chief salts, and illustrations are given of their crystals. Mr. Lea by no means restricts himself to the substances actually found in the animal body, but gives interesting sections on various compounds that have a biological interest. As an example which will show well his method of dealing with such substances, his account of asparagin may be selected. The composition of asparagin he gives as $C_4H_8N_2O_3 + H_2O$, or $COOH \cdot CH_2 \cdot OH(NH_2) \cdot CONH_2$, amido succinamic acid, and he goes on to observe that, although asparagin is not found as a constituent of the animal body, it is a substance of considerable interest to the physiologist, for not only is it closely related to aspartic acid, into which it may be converted by the action of boiling acids and alkalies, yielding at the same time ammonia, but it undoubtedly plays a most important part in the constructive proteid metabolism of plants. Further, it exists in not inconsiderable amount in many plant tissues used as food by man, and is known, like so many of the members of the numerous class of amido-acids to which it belongs (leucine, glycine &c.), to give rise to urea when taken into the bodies of carnivora and to uric acid in those of birds. "In plants asparagin, like leucine, is found chiefly in those parts which afford a store of reserve material, such as bulbs, tubers &c., and the cotyledons of seeds. The amount is, however, largely increased during germination, and it is therefore frequently present in very large quantities in seedlings—as, for instance, in those of yellow lupins. The increase in the young growing plant is most probably due chiefly to a formation of asparagin out of the decomposition of reserve proteids, although some may be formed synthetically. The amount is greatest when the seeds are germinated

in the dark, and the seedlings subsequently grown for time in semi obscurity and shielded from the access of carbonic anhydride. Under these conditions the formation of non nitrogenous [? carbohydrate] material is simultaneously prevented, and, putting the two facts together it appears probable that the disappearance of asparagin in seedlings grown under ordinary conditions is due to its consumption for the synthetic production of proteids. The chemical characters of asparagin are then given by the author, and he proceeds to say "One point of interest with respect to asparagin remains to be briefly mentioned. Seeing that in plants the nitrogen requisite for the construction of proteids appears to be obtained largely from asparagin, is there any evidence that in animals also the nitrogen of this substance can take the place of that of proteids? The answer to this question may be stated as follows. When asparagin is administered to carnivora or birds, practically the whole of it is converted into urea or uric acid. Thus in carnivora at least there is no diminution of proteid metabolism, such as is observed under a gelatin diet when asparagin is added to the food. In herbivora, on the other hand, there appears to be somewhat distinct evidence that a part of the nitrogen in proteids may be replaced by that of asparagin." This is all extremely well put and is highly suggestive, and in a final paragraph Mr. Lea remarks that the question as to the importance of the nitrogen of asparagin as a possible replacer of that of proteids arose first in connexion with the dispute, referred to in a previous page, on the mode of formation of fats in the animal body. In certain experiments employed by Voit as a basis for his views a diet of potatoes was largely used. The amount of nitrogen in these was calculated from the total nitrogen they contained, on the assumption that there was no nitrogen present in them in any form other than that of proteids, but potatoes contain much asparagin, so that, making allowance for this, the total amount of proteid given in the experiments alluded to was much less than was supposed, and might not have sufficed to account for the fat stored up. "This difficulty," Mr. Lea observes, "would obviously be got over if it could be shown that the nitrogen of asparagin can play the part of the nitrogen of proteids."

The account of the colouring matters of the animal body is very complete. It includes those of the blood, hæmoglobin and its derivatives, with the combinations of that substance with carbon monoxide, nitric oxide and carbon dioxide, methæmoglobin, hæmocyanin, hæmochromogen, hæmatin, histohæmatin, hæmin, hæmatoporphyrin and hæmatoidin.

The perusal of the work leads to the conclusion that, though slowly, yet still surely, we are acquiring a more thorough knowledge of the organic compounds found in, or capable of being extracted from, the body. This is seen in such examples as the enzymes and their action on different substances, the peptones and their several forms, and the pigments of the blood, bile and urine, to which we have already referred. The work may be accepted as an authoritative exposition of the present state of our knowledge of the chief constituents of the body, and is a valuable appendix to Foster's Physiology.

LIBRARY TABLE

Burdett's Hospital Annual and Year book of Philanthropy for 1893. Edited by HENRY C. BURDETT. London: The Scientific Press.—No one who takes up this book and examines even cursorily its contents can fail to be impressed with its value, especially to those who are engaged more or less directly with hospital work in its various departments. A rapid glance at the index will show the wide extent of the information it conveys in respect of the institutions of a medical and philanthropic kind distributed throughout the three kingdoms. Its pages present an *embarras de richesses* almost provoking by its very voluminousness. And yet such

the latest exposition of the bearing of his researches on the great problems of life and organisation and of his being admitted into its membership. We are more concerned to-day to notice the significance of the general reception which Professor VIRCHOW has received in this country, and especially by the profession at large, as represented by the banquet on the evening of the 16th inst. The address to the Royal Society will remain an achievement of scientific exposition in the happiest English by a distinguished foreigner, and it is the less likely to be forgotten on account of its generous recognition of the work of English physicians and physiologists HARVEY and GLISSON and HUNTER and BROWN, and the host of workers whom they represent, will live more vividly in the history of physiology and of medicine for the tribute, minute and justified, of the Croonian Lecturer of the Royal Society for the year 1893. Not the least interesting to medical practitioners, though perhaps a little less expected, was the part of Professor VIRCHOW's tribute which alluded to the personality and the work of BROWN—to what he called "the new system of medicine founded in Scotland," of which in later years, under the auspices of Dr TODD we have had a resuscitation in England. The division of diseases into sthenic and asthenic, according to the apparent amount of vital force in them, has ever since BROWN's time been a feature in the estimate of disease not by the people only but by medical practitioners. No theory has had more to do in dominating practice—sometimes in wrong directions, at other times in right directions, but in very wrong degrees. But this like many other parts of the Croonian Lecture, is matter for separate notice and is not the special object of our present article.

We are concerned now with the interest of the episode of Professor VIRCHOW's visit as a whole and as an event in the history of the profession. The eloquence of the evening gathering was not unworthy of the occasion. It represented all that was best in the Royal Society, and all that was best in the medical profession besides being an illustration of the close connexion of medicine with science in its deepest parts and with the great society which has always cultivated close relations with the faithful workers in medical science. The speech of Lord KELVIN at the dinner clearly showed his recognition of the advance made by Professor VIRCHOW and the students of the cell in physiology and pathology. There was a little touch of humour indeed, in the way in which he indicated the fact that, in localising the secrets of life in the cell instead of in the egg, as HARVEY did, we are not much nearer the discovery of the nature of this essential and mysterious principle. This much, indeed, was practically admitted throughout by the Croonian Lecturer himself and by all the speakers at the banquet. The advocates of spontaneous generation were conspicuous by their silence if not by their absence, and for the time being, at any rate, in this gathering of the foremost men in the sciences—like of physics and of biology—there was the frankest recognition of the continuity of life from life—of cell from cell—leaving to future ages the solution of the problem of the origin of first life and the discovery of the nature of all life. Mr HUXLEY, whose title (as a member of the Privy Council) of "the Right Honourable" seemed to puzzle the toastmaster is not only famous as an anatomist and biologist, but has claims to be regarded as a perfect

type of the scientific speaker. His presence at what was essentially a gathering of the medical profession was a pleasing compliment not only to the host of the evening, but to the profession of which, like most anatomists and biologists, he is an honoured member. His speech was in admirable taste and gave his audience, as did also the speech of Sir JAMES PAGET, a wonderful idea of the range of Professor VIRCHOW's work. Not the least advantage that should accrue from the visit of our distinguished guest is the indirect proof which his account of English work in physiology and medicine affords of the value of the study of life as distinguished from that of death of the study of living animals as distinguished from mere morbid anatomy. The turning point of medical science—at which it made a start on the road which is now conducting it to the greatest discoveries—was when HARVEY began to set the example of studying organs in action as well as dead parts. "Here for the first time," says Professor VIRCHOW, "the anatomical examination of living parts was carried through in an exemplary way, according to experimental methods." This is the high praise to an Englishman which a foreigner has to offer in a country where he finds such workers hindered by a suspicious and ungenerous law. We believe that the nation, which really regards its medical profession with respect, will see that if the glory of yet greater discoveries is to be achieved by Great Britain the restrictive legislation to which we refer will have to be relaxed. Finally we must again express our sense of the pleasure which the visit of our eminent German colleague and the ovation he has received alike in London and at our principal seats of learning has afforded us. Such international hospitalities should be multiplied. They do immense good to the profession at home and stimulate it to further efforts, they bring before the public mind the true greatness of medical science and they enhance the friendliness of nations and of their true leaders.

Few symptoms may arise from a greater variety of causes than uterine hæmorrhage, and whilst sometimes it may be of comparatively small importance, at others it may have the gravest significance. It should therefore never be disregarded or treated lightly till the reason for it has been satisfactorily ascertained or, at all events, till every effort has been made to determine its cause. It may be said that these are merely general principles such as are acted upon by every earnest practitioner in every department of medicine—that, in fact, this is merely another way of saying that diagnosis should precede treatment, and this is true up to a certain point. For instance, to take as an example a common symptom, such as diarrhoea, it is obvious that all practitioners having excluded the more serious diseases likely to cause the condition, must at times be content to prescribe for it without always being able to say positively to what it may be due. We have not taken this symptom by any means at random. Indeed, within our knowledge a case occurred even in hospital practice in which a patient was treated for simple diarrhoea for twelve months by various astringent mixtures without benefit. At last, when a local examination was made, a large gall stone was found partially embedded in the recto-vaginal septum. In this instance the fact

THE LANCET.

LONDON SATURDAY, MARCH 25, 1893

IT is natural that the annual meeting of the Fellows of the Royal College of Physicians of London, held on the day after Palm Sunday, should excite an interest in the profession far beyond the limited circle immediately concerned in the proceedings. For on this day the Fellows assemble to receive from their President his account of the duties that have fallen to him during his year of office, together with his sketches of the lives of those Fellows who have ended their earthly career since the last anniversary, then the Comitia proceed to elect a new President, and it is upon their choice that much may depend in regard not only to the position of the College, but also to the general status of the profession in this country. In some respects the College occupies a unique position and exerts an influence for good far beyond any claims which may be made on its standing as an historical institution. For, notwithstanding the criticism of those who think its government should not be limited to the Fellows who form the minority of the body corporate, in spite, too, of the ungenerous taunts of others who would fain deprive it of its long established rights, there is no gainsaying the fact that this College has exerted and does continually exert a most wholesome influence on the profession of medicine in this country. The bestowal of its Fellowship means something more than recognition of professional ability or of success in practice, and it is not surprising that its possession is valued and sought after, for it is known that every care is taken to make the selection impartial and just. In spite of all that may be said of the action taken by the College in questions of ethics, which from time to time are brought under notice—questions admitting often of great differences of opinion—it must, nevertheless, be freely recognised that its judgments have been such as reflect the best traditions of an institution which, in these difficult and delicate matters, has to act the part of the conscience of the medical body corporate. The College has always been a jealous guardian of professional honour. It has, especially of late years, taken also a most prominent—nay, a leading part in medical education. It is regarded also by the State as the chief representative body of our profession, and has often been appealed to on questions pertaining to the public service.

The position of President of such an institution must therefore be one of great responsibility as well as of high honour. He has behind him a long roll of names of physicians chosen for this office, on various grounds, it may be, but mainly by reason of their personal worth and the feeling that they are capable of setting the standard of right in professional conduct for their brethren to attain unto. To the general public he is the embodiment of the ideal physician, to the profession he is the arbiter of questions of disputed ethics, whilst to his own College he has to devote himself with an assiduity which can only be shown at much self sacrifice. The office of President of the College

of Physicians nowadays is no sinecure. The multifarious matters which come under its purview must demand of him a large amount of practical acumen and a sound judgment if the College is to maintain the position it has so long held. This being so, it is obviously to the advantage of the College, and therefore of the profession at large, to retain in office the same physician who has held the chair for several years—one who is well acquainted with its duties, and has taken a leading part in all the developments of its work. But the College could only do this if the President himself were wishful to retain a position fraught with so much personal inconvenience. We believe that we are only expressing a general feeling when we state that the continuance of Sir ANDREW CLARK in office for at least another year will be very welcome to the profession at large. He completes on Monday a term of office which has only been exceeded by his much respected immediate predecessor since the time of Sir H. HALFORD's lengthy reign. As a general rule, it may not be desirable to re-elect a President for a longer term than five years. It is hardly fair to him to demand so great a tax upon his endurance, moreover, repeated re-elections afford less opportunity for a trial of administrative talent which may be latent in the Comitia of the College. It seems to us, however, that the Fellows would act wisely and consult the best interests of the College and of medical education by once more calling Sir ANDREW CLARK to office. That he has claims to such a recognition of his untiring exertions, his ripe judgment and his frank generosity must be admitted, and unless he himself would desire retirement from so arduous a post there ought to be no hesitation in re-electing him, particularly as the still burning question of a University for London, in which he has shown so keen an interest, is still unsettled.

Believing that this will be the decision taken on Monday, it is hardly worth while to discuss other eventualities. Many an honoured name occurs to us which we would fain see enrolled on the presidential list, but which, for reasons concerned mainly with the all engrossing duties of the office, it would be no kindness to propose. There is, however, one name which has often been prominently brought forward—that of a physician whose long activity in matters concerning education and medical legislation has marked him out as well entitled to the honourable position to which he has attained in the General Medical Council. It would, however, be singular if Sir RICHARD QUAIN should be called to fill both these positions at the same time, and certain recent litigation emphasises the incongruity of one individual presiding over two bodies having functions of such a different scope. Indeed, as far as he himself is concerned, we understand that in view of the important work in which the present President is personally engaged on behalf of the interests of the College as affected by the proposed teaching University in London, Sir RICHARD QUAIN does not wish to stand in the way of Sir ANDREW CLARK's re-election on the present occasion.

THURSDAY, March 16th, is a day to be remembered in the annals both of the Royal Society and of the profession of medicine. We have already observed on the seemliness of this society hearing from the author of cellular pathology

not only be profoundly disappointing to all believers in human progress, but it would tend to paralyse all effort put forth for the betterment of the degraded and criminal classes. It is very satisfactory to find that Sir EDMUND DU CANE, with his large official experience and his association with those most likely to possess trustworthy information on the subject, is decidedly of opinion that crime is undergoing a sensible and progressive decrease.

First, as to the returns of the prison population since 1877. These indicate not only a decrease, but, what is much more important, a practically continuous annual decrease. The average number in local prisons in 1878-77 was 20,361, while in 1891-92 it was 12,663. In 1869 there were 2006 sentences of penal servitude, in 1891 the number was 751. Here we have a notable and most satisfactory decrease. In reply to those who allege that this decrease can be explained by a shortening of sentences, Sir EDMUND DU CANE says that, even if this shortening of sentences be a factor in the case, yet "there is no evidence of the consensus of such a large number of independent sentencing courts as would justify the assertion as a general rule", further, that a shortening of sentences "would not account for the continuance of the fall year after year, for the sentences have certainly not been proportionately shortened year after year." Equally inadequate, in the writer's view, is the suggestion that this decrease may be explained as due to the general substitution of fining for imprisonment.

Again, a great fallacy would seem to lurk in the argument of those who regard the increase in the number of juveniles in reformatories and industrial schools as an evidence of an increase of crime. In point of fact, these institutions are of comparatively recent growth, their great development dating from the Reformatory and Industrial Schools Acts of 1866. Further, the returns from these two classes of institution are fallacious if considered *en bloc*. The reformatories are "penal and reformatory institutions for young persons convicted of crime and correspond therefore to prisons. The industrial schools, on the other hand, are preventive institutions for children who have not been convicted, but might fall into crime for want of proper care and training." It is clear, therefore, that an increased number of juveniles in the industrial schools would point simply to greater activity on the part of the authorities as regards preventive measures and would throw no light on the problem before us.

Further evidence is afforded by the annual police returns regarding the number of what are known to them as the criminal classes. Since 1867-68 the decrease in the number of these classes has been practically continuous and has fallen from 87,663 to 51,095. As to crime, the police returns point to a not less satisfactory decrease. The Commissioner of Police of the Metropolis in a recent report shows that the felonies in 1830 were fewer by 2053 than in 1889, and points out that the felonies are now less than half the number considered normal twenty years ago. The Chief Constable of Liverpool reports that the number of indictable offences committed during the year ending Sept. 29th, 1891, was 907 less than during the year ending Sept. 29th, 1890, and 967 less than the year previous to that, whilst minor offences of violence had fallen from 1952 to 1546. Mr GROSVEEN of the Home Office, in a paper read before the Statistical Society in 1890, summed up his conclusions by saying "It is obvious that

these combined causes have materially assisted in securing the abatement shown to have taken place in nearly all classes of crime during the last twenty years, whilst the great reduction in the number of known thieves and other suspected persons at large, as well as in the houses of bad character which they frequent, and more especially the extraordinary diminution in the number of receivers of stolen goods, has made manifest the increasing efficiency of the police. When to this is added the fact that during the period in question the population of England and Wales has increased by nearly six millions and a half, we must admit that the many agencies enlisted for the purpose of diminishing the number of criminals have been most successfully applied, and the result cannot fail to afford the utmost satisfaction and encouragement to all who are anxious for the improved moral and physical advancement of our nation."

These conclusions afford a solid basis for a hopeful prognosis regarding the future of crime. It would be contrary to all the probabilities of the case that education, philanthropy, legislation, the wider diffusion of material comfort, and the general spread of refining and humanising influences should fail to produce any diminution in the prevalence of crime. We are told by the pessimists that education only gives us more adroit criminals and that increase of wealth only multiplies the temptations to fraud and violence. We decline to accept so disheartening a view as this, and we are thankful to Sir EDMUND DU CANE for strengthening our belief in the moral progress of humanity.

Annotations.

"No quid nimis."

THE INTERNATIONAL MEDICAL CONGRESS

AN Italian correspondent writes under date, Rome, March 19th—"Only six months now divide us from the opening of the Congress and still the work of preparation proceeds with alacrity. To the lists already given of important provincial committees organised to coöperate with the central committee in promoting the solidarity of the Italian representation I have now to add that of Milan, over which Dr Giovanni Rosmini has been elected to preside, the vice-president being Dr Francesco Denti and the secretaries Drs Pietro Ramazzotti, Torquato Sironi and Giuseppe Pessina. The 'Esposizione,' which is to constitute so useful and impressive a feature of the Congress has also an organising delegate from the Milanese province in Dr Vincenti, well known in every department of practical sanitation. The circular issued by the committee at Milan justly remarks that the profession, not only in the towns, but in the country parishes, includes practitioners of approved knowledge, sagacity and experience, whose presence at the Congress is on every ground desirable, and to these it addresses an urgent invitation to seize the opportunity of exchanging views with their brethren not less thoroughly equipped from other parts of the peninsula. In this way the *fratellanza* between all branches and representatives of the healing art in Italy is furthered, as a preparation for that larger *fratellanza* (or brotherhood) which unites practitioners of all nationalities in the same grand cause of medical science and endeavour. Meanwhile the correspondence between the central committee and the profession in non-Italian countries has fructified satisfactorily. This has been conducted mainly

that treatment had preceded diagnosis had not done the patient any great harm, but there are special circumstances, unfortunately, in the case of metrorrhagia which not infrequently lead to the most lamentable consequences to the patient unless accurate diagnosis be made the first consideration. For instance, there is the knowledge on the part of the medical attendant that many patients are exceedingly unwilling to submit to examination, and therefore a natural disinclination on his part to urge upon them a course that would certainly be unpleasant, and might afterwards prove to have been unnecessary. Then, again, there may sometimes be a doubt in the practitioner's mind whether, after obtaining the patient's consent, the result of the examination would be as conclusive as could be wished. For these reasons the practitioner may be inclined to think there can be no harm in waiting for a little time, and trying the effect of the various medicines reputed to be useful in the treatment of metrorrhagia before determining upon a thorough investigation of the case. Yet it is scarcely possible to insist too strongly on the fact that a certain proportion of women who suffer from losses of blood, or a blood stained discharge between the menstrual periods are suffering from cancer of the uterus, and the responsibility rests with those in attendance to make sure, as far as possible, that a case with this symptom is not a case of cancer before proceeding to treat it by simple remedies such as ergot or hamamelis. If this be borne in mind a larger proportion of cases than at present would be seen in time for operative treatment to have a fair chance of success. There are some popular fallacies, as our readers are well aware, prevailing amongst women themselves with regard to this subject. For instance, there is the notion that pain is invariably associated with cancer, and that consequently so long as there is no pain they may safely assume that their ailment, whatever it may be, is not, at all events, cancer. Similarly, even a larger class of patients erroneously fancy they must be the victims of cancer because they suffer pain. The fact of course is that, as regards cancer of the cervix, pain does not generally occur till a late period in the case, when the disease has reached an advanced stage and satisfactory treatment by operation has become impossible. It is true that in cases of primary cancer of the body of the uterus pain is often an early symptom, but, as is well known, in by far the largest number of such cases the disease begins in the cervix, and here what has been said above applies. Another erroneous prevailing impression is that the disease is necessarily one of advanced life. Now, whilst this is so as regards primary cancer of the body of the uterus, it is certainly not so as regards the cervix. We not rarely meet with cases of the latter class between the ages of twenty five and thirty, and after thirty they become comparatively common. Again, we must not lose sight of the fact that there is not infrequently some misapprehension as to there necessarily being an offensive discharge in cases of cancer. Such a discharge is practically always present sooner or later, but it is usually later, the point to be remembered is that in many early cases of cancer of the uterus the discharge is not at all offensive. This applies to both classes of cases. The absence of an offensive discharge must not for a moment be taken as warranting a conclusion that the patient is not suffering from cancer.

On the other hand, whilst there is almost always an offensive discharge at some period or other in cases of cancer, an offensive discharge does not of course by itself warrant a diagnosis of cancer.

All whose practice deals more especially with the diseases peculiar to women have doubtless seen cases of advanced uterine cancer where valuable time has been lost in unavailing treatment by internal remedies and the use of some simple vaginal douche. In some of these cases perhaps no examination whatever may have been made. Great advances, however, have been made of late years in the diagnosis of cancer, and so far as the profession itself is concerned there is a more general recognition of the significance of intermenstrual hæmorrhages. Now, whilst any intermenstrual hæmorrhage should excite a suspicion that there may be something seriously amiss, and lead to a thorough investigation, it is not too much to say that hæmorrhage after the menopause is generally due to cancer. There are, of course, exceptions to this as to most other rules, but the safest plan is to regard any case of hæmorrhage after the menopause as possibly due to cancer till an examination has been made. Even if no evidence of anything abnormal is discovered by an ordinary vaginal examination, it should not be forgotten that the disease may be beginning in the supra vaginal cervix, or even in the body of the uterus, and certainly the persistence of a sanious discharge should lead to a further investigation—that is to say, the cervix should be dilated, so that the condition of the supra vaginal cervix, and of the interior of the body of the uterus, may be ascertained.

It would seem at first sight a comparatively simple matter to determine whether in a given country and for a given period crime has increased or decreased, but the problem is not so simple as it looks and experts are found to differ in their conclusions. Difficulties arise from different classifications of crime, from varying lengths of sentences according to the special views of those concerned in the administration of justice or the altered temper of the times, from a change in public sentiment regarding such matters as capital punishment and transportation, from different methods in dealing with juvenile offenders and from fluctuations in preventive legislation. These are only a few of the factors which introduce doubt and difficulty into the correct appraisement of criminal statistics, and we must not be surprised if this department of sociology presents some of the perplexities which more or less beset all sociological problems. An attitude, however, of suspended judgment on such a broad question as whether in this country crime is tending to increase or decrease cannot be very long maintained, and whilst allowing full weight for the special difficulties of the case we naturally crave for some assurance that all the legislative, educational and philanthropic effort in which the century has been so rich is bearing fruit. Hence Sir EDWARD DU CAVE's article in the current number of the *Nineteenth Century* will be rather a relief to many of his readers. He writes avowedly to controvert the gloomy views of some recent authorities who have sought to show that the improvement in criminal statistics is apparent rather than real, and that there is no satisfactory evidence that advancing civilisation and the spread of education tend to make men morally better. A conclusion like this would

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through the presidents of the nineteen sections into which the work of the Congress has been distributed, and the result has been that, partly through direct appeal and partly through intermediate negotiation, men of light and leading in the various subjects these sections cover, have promised, or have actually sent in, contributions bearing on the topics prescribed. Within the last few days, in fact, communications in this sense have been received from Great Britain, France, Spain, Germany, Switzerland, Austria Hungary, Belgium, Holland, Denmark, Sweden and Norway, Russia, Turkey, Egypt, the United States and Australasia. A representative of the Congress, when passing through Calcutta, had an audience of the Viceroy, and, at the request of the Indian Government, the central committee has instituted in the Section of Hygiene a subsection to deal with Asiatic cholera, its etiology, its mode of propagation, its prevention and its treatment. The Surgeon General (Dr W. R. Rice) has, I understand, deputed Dr Cunningham to represent Indian medicine at the Congress. The French Minister of Marine will also send a delegate in the person of the medical officer in chief of the navy, Dr Rouvier, member of the superior council of the sanitary service of the fleet. The Peruvian Government has, further, notified the central committee that its deputy at the Congress will be Dr Aurelio Alarco, one of the most distinguished consultants in the school at Lima, whilst the Governments of Paraguay, Colombia and Ecuador have responded to the invitation of the central committee by an undertaking to nominate their representatives *quam primum*. At the Policlinico itself—the seat of the Congress outside the Porta Pia and near the British Embassy—the Palazzo dell'Amministrazione, in which the sittings will be held, is progressing rapidly towards completion. The magnificent cornice of the palace—a *chef d'œuvre* of the Society of the Stuccatori (artists in stucco ornamentation)—has, thanks to the dry, sunny weather, been brought to a close in a wonderfully short time, the work employing as many as forty hands a day. This part of the building, indeed, will rank as one of the best artistic productions of modern Rome, worthy of the institution it ornaments and of the Congress which will be the first to witness it."

THE SHOP HOURS BILL

WHATEVER may be the ultimate fate of the measure introduced by Sir John Lubbock for the reduction of hours of labour in shops, it is evident that public opinion as a whole is convinced of its utility and of its moderation. Twelve, fourteen and sixteen hours a day are terms which under any rational system of trade would much more than satisfy all commercial exigencies. Their duration bears no true proportion to the work in hand. It is merely the outcome and expression of an unregulated struggle for existence amongst traders, in which the public health and every other interest is subordinated to the ambition or the supposed necessities of the individual. Its ruinous influence upon the health of the employed calls for no fresh assertion on our part. This has been proved beyond question in the experience of every medical practitioner whose calling brings him into contact with the class in question. Clergymen and others have protested against its demoralising tendency, for obviously the unfortunate whose every waking hour on every day save one in the week is practically spent in a routine of work or business worry can hardly be capable in any remaining fraction of leisure, even if he has the opportunity, of endeavouring after mental or moral self-improvement. Life in his case becomes, but for the mental slavery, we will not say activity, involved in his business duties, little better than a mere process of physical effort alternated with hurried attention to bodily necessities and appetites. It is therefore not to be wondered at that we find trade councils,

factory inspectors, shopkeepers themselves and shop assistants all over the country, though uncombined by any plan of alliance, yet agreed in a general dissent from this established disorder of things. The new Bill is but the voice of the dissentient spirit. It is, therefore, no forced or artificial measure. All that it seeks to do is to assert the right of a preponderating majority to control in an essential matter of trade custom the hostile independence of a small and selfish minority. Its results can be guaranteed as beneficial, its method is regular and constitutional, and its ultimate success must therefore be only a matter of time. It already possesses, in the support of members on both sides of the House of Commons, an earnest of acceptance by the Legislature which we hope will not wait long for its needful confirmation.

BLACK TONGUE

THE condition in which the dorsum of the tongue is more or less covered by a black patch is not very uncommon, but its etiology is somewhat obscure. It has been called "hyperkeratosis" with the idea that the superficial layer of epithelium becomes hypertrophied, undergoing horny degeneration, with atrophy of some of the cells and a development of black pigment. Drs Ciaglinski and Hewelke, writing in the *Kronika Lekarska*, describe a case in which they were able to find a mould in the black patch somewhat resembling mucor rhizopodiformis, which contained black pigment. The case was that of a woman who a fortnight previously had had some kind of feverish attack—most probably influenza. The tongue looked as if it had been covered with blacking the discolouration extending as far back as the circumvallate papillae. By means of borax washes the tongue became clean in a couple of days. Examination showed a black mould which could be well cultivated on bread or on potatoes at the temperature of the room, but which did not grow at 37° C. It was apparently of a harmless character, for it was injected into the veins of rabbits without effect. Drs Ciaglinski and Hewelke distinguish two kinds of black tongue—the chronic, due to anatomical changes in the epithelial layer, and the acute, which depends upon the presence of a mould. This is harmless apparently to internal organs, as it does not develop at the temperature of the body.

POPLAR AND STEPNEY SICK ASYLUM RETIREMENT OF, AND TESTIMONIAL TO, DR GOLDIE

EXTENSIVE alterations are in progress at the Poplar and Stepney Sick Asylum, Bromley. The present building was erected under Gathorne Hardy's Act, which enabled unions to combine together for the purpose of treating their sick poor. It was constructed on the pavilion system, and was opened for the reception of patients on Aug 7th, 1871. It accommodated 586 patients, but the pressure on the institution has been so great during the last ten years that Dr R. W. Goldie, the medical superintendent, found it necessary to recommend the managers to add three beds to each ward, bringing the total number of beds up to 640. The beds are divided nearly equally between the two sexes. This temporary measure having proved insufficient the managers decided upon erecting two new pavilions at the east end of the institution, where there was a large vacant space used as a recreation ground. The new blocks will accommodate about 200 patients. It is expected that this much needed extension will be ready for the reception of cases in about twelve months. At the west end of the building a large nursing home is being erected. It will include a large recreation hall and provide rooms for from forty to fifty nurses. After a service of twenty-two years at the hospital, Dr Goldie has resigned his appointment on account of ill health and has been succeeded by Mr W. H. Pearce, formerly house surgeon at the Sheffield.

Hospital and for the last ten and a half years assistant medical officer in the asylum. Before his appointment as the first medical superintendent to the Poplar and Stepney Sick Asylum Dr Goldie served for three years in a similar capacity at Chorlton Union Hospital, the first hospital in the Poor law service built upon the pavilion plan. His term of office has been signalled by very considerable activity both in surgical practice and in administrative work, and the asylum is indebted to him for many improvements and additions to the comfort of the inmates. The chief operations performed at the hospital have been lithotomy, hepatotomy, excision of the tongue, lower jaw, head of the humerus, elbow joint and wrist-joint, and about thirty amputations, including Syme's and Pirogoff's amputations, amputation through the knee-joint and at the seat of election and several through the lower third of the thigh. Virtually, there has been no death rate, a fact which speaks volumes for the skill of the surgeon and the admirable sanitary arrangements of the hospital. Dr Goldie retired formally from office on Saturday last, the 18th inst., and the general staff of the hospital embraced the opportunity to present him with a testimonial as a mark of appreciation of his services to the institution, his care for the welfare of the patients and his attention to the interests of the whole of the working staff of the hospital. There were no less than eighty-seven subscribers. The testimonial comprised a dessert service, a silver tankard, a pair of opera glasses and an illuminated address. Complimentary speeches were made by Mr Pearce (the visiting clergyman), Mr Foskett (clerk to the board) and Mr Rivington, who, though not formally appointed to the office of consulting surgeon to the institution has been called upon with the approval of the board to give his opinion in important surgical cases during the greater part of Dr Goldie's tenure of office, and has been present at a large majority of the operations performed at the asylum. We may add that some years ago Dr Goldie was offered by Mr Stansfeld an inspectorship under the Local Government Board in recognition of his services, but declined it. It is to be hoped that after a short rest his health will be re-established and that he will find a new sphere for the exercise of his undoubted professional and administrative abilities.

ACCIDENTS IN INGUINAL COLOTOMY

IN a short paper on a year's work at his clinic for Diseases of the Rectum, published in the *New York Medical Journal* of Feb 18th, 1893 Dr C B Kelsey mentions two cases of inguinal colotomy in which a noteworthy accident occurred. In one case, twenty-four hours after the operation a remarkable flow of serum, which completely soaked the dressing was observed, and when the dressing was removed three or four feet of gut were found to have escaped from the wound, and to be "strangled and cold." The wound was opened up the prolapsed bowel reduced and the sigmoid flexure again sutured in place. The patient then made an uninterrupted recovery. In the second case, which occurred almost at the same time, a similar sudden flow of serum soaking the dressing was noticed forty-eight hours after the operation. Unfortunately, the attendant did not realise the importance of this and it was not until some hours later, when the patient was "vomiting and partially collapsed," that the wound was uncovered. "All the bowel that could get out through a two-inch incision in the left inguinal region was out of the body and mixed up with the dressing." It took one hour and a half to separate the bowel and reduce it but the man sank under the shock of this operation. Dr Kelsey refers to accidents of an opposite character that have happened. The bowel in those cases slipped back into the abdomen and had to be picked up and secured again to the abdominal incision. These cases are worth

special attention because one advantage of inguinal colotomy over the lumbar operation is its extreme simplicity, and some surgeons have attempted to reduce its simplicity to the very lowest point by omitting all suture of the bowel to the abdominal wall and trusting only to a probe or some similar appliance thrust under the bowel through the meso-sigmoid. In view of these accidents it is quite evident that the bowel should be securely fastened to the abdominal incision in such a way as to prevent both its slipping back and the prolapse of further coils of bowel. Opinions may differ as to the best means of doing this. Probably none is better than a single stitch through the mesocolon and the skin on one side of the wound, one at each end through the longitudinal muscular band and both edges of the wound, and two interrupted sutures at each side passing through the muscular and serous coats of the bowel and the skin only.

THE PELLAGRA DEBATE IN THE ITALIAN CHAMBER

THE one blot on the generally satisfactory health conditions of Italy for the past twelve months was, as the official returns demonstrated, the pellagra—that frightful scourge, whose victims are chiefly to be found in Lombardy and Piedmont, and whose sequela, particularly in the third year from the initial attack, are seen in a paralysis, mental as well as physical, which contributes more inmates to the lunatic asylums than any other cause. Its etiology thanks not only to Italian but to French pathologists has been lately put on a more scientific basis than hitherto, and Dr H. Gintroc especially has differentiated it from the "pseudo pellagra," at least five in number, which mistaken for the true malady, have often led to mistakes in treatment and in prophylaxis. By the light of these researches it is of supreme importance that the profession at large and the sanitary authorities in particular should reconsider the means available for preventing as well as curing the disease, and so not a moment too soon, Signor Suardi Gianforte interpellated the Minister of Agriculture in the Italian Chamber as to what had been done and what it was still proposed to do by way of treatment in the public hospitals and of prophylaxis in the affected districts. He called attention to the vote carried in a former Parliament for the promotion of these therapeutic and precautionary measures, and he asked what success had followed them since their practical enforcement. As to the provisions for the prevention of the malady, he classified them in three groups: (1) That which improves the hygiene of the agricultural labourer by giving him better house accommodation, pure drinking water and better drainage, (2) that which comes to close quarters with his disease and provides sounder food at so-called cheap kitchens and also "locande sanitarie" or health stations, where he can be directly relieved of his more distressing symptoms, and (3) that remoter provision by which his life is made easier to him by better wages the lightening of taxes, reduction of octroi dues and such like. Under all of these heads there was still much to be effected before an impression, deep and lasting, was made on the pellagra whilst he admitted that group the second had—in the province of Bergamo for instance—yielded most satisfactory results which had also been exhibited on an encouraging scale in other provinces. But how to make the agricultural labourer do for himself what those cheap kitchens and health stations do so well though all of them too late? How to insure him a comfortable, well drained, well appointed dwelling and an increased wage or a remission of taxation sufficient to let him live and thrive? Such is the real problem, and its effective solution would mean the rehabilitation of the agricultural poor not in Italy only but in almost every country in Europe. Signor Suardi Gianforte concluded an eloquent

appeal for the Italian rural labourer by showing how much the State, in conjunction with the local proprietors and capitalists, could effect for him, and how the result of such action and legislation would be seen in the development of economic and social conditions which would make the pellagra impossible and the elaborate machinery organised to encounter it *une quantité négligeable*. His Excellency Signor La Cava (Minister of Agriculture) replied for the Government and pledged his department to continue its subsidies for the *essiccatoi* or furnaces for drying the maize and destroying the parasite that renders it noxious as food, whilst also maintaining the cheap kitchens and the health stations, "aiding and promoting, as it had hitherto done, the initiative of the private local charities." More important still, as an indication of policy, was his assurance that the Government would place funds at the disposal of provincial committees in aid of the "earning power" of the labourer, and, with this view, had already taken steps with the Lombard savings banks to furnish the subvention required. The "Opere Pie" (Italy's equivalent for State charities), he further suggested, might possibly, by transformations in their working, be made to yield more substantial aid than hitherto to the agricultural poor, and he concluded by reiterating the solicitude of the Government to minimise in the meantime and ultimately to stamp out at its origin the pellagra, which costs Italy so much in men and treasure. Altogether, the official reply was about as satisfactory as Signor Suardi Gianforte could have looked for—the heavy strain on the country's finances for the army and navy being considered. He accordingly accepted the Ministerial assurances with an expression of trust in their *bona fides*, of hope in their efficacy and of thanks for the fulness and cordiality with which they had been given.

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frame regulations for administration of the grant, and it is only reasonable to suppose that one of the regulations should be that counties must show to the Secretary that their sanitary arrangements are fairly satisfactory before he admits them to a share in it. It is this regulation, framed by his predecessor acting under the advice of the Board of Supervision, that Sir George Trevelyan seems to have decided to abrogate, and his decision is certainly unfortunate.

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THE proceedings of the Royal Commission appointed to consider the charter proposed for the formation of a new University in London, to be called the Gresham University, will immediately come to a close. Sir George Young and Professor Ramsay of University College have been heard, and Dr. Wace, the Principal of King's College, will be the last witness, and complete the evidence on behalf of the promoters of the Gresham Charter. We trust that the report of the Commissioners will be published as soon as possible.

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IN the last number of the *American Journal of the Medical Sciences* Dr. Weir Mitchell has a paper dealing with this obscure and interesting affection. From his wide experience he is able to formulate a description of the symptoms associated with the condition. The breathing, he says, is largely upper costal, sometimes exclusively so, and the preservation of the relative share between that and the diaphragm is rare. As a rule it is superficial and without appearance of effort. Usually also, in the early stage the patient is ignorant of the existence of the symptom, but when once the knowledge is acquired the respiration rate is increased by excitement, such as is induced by the mere approach of the nurse or medical attendant. As a rule, too, the symptom occurs only just after sleep, and may be quite absent—indeed, usually is so—during sleep. Sometimes the symptom is the only distinct expression of hysteria or is not present unless the patient is emotionally excited, he does not moreover think that the type of breathing is a possible voluntary product, whilst he regards the affection in males as distinctly rare. Several cases are related which bear out this description, and amongst them one in which there was a curious and anomalous eruption on the leg somewhat rupial in character, which at first appeared as a mass of pimples. These, during a state of trance, became confluent and formed a scab, an excellent illustration of which is given in the paper. The scab was removed and under it there was found a greyish white fibrinous material, from the surface of which oozed a little blood. The skin round the edges was thickened, hardened and hyperæmic, and the area was very sensitive. Nothing else unusual was discovered in the patient's condition except a marked contraction of the colour fields, a chart of which is given. Reference is also made to different forms of rapid respiration, and graphic records of the varieties of these

are given. As was to be expected from the wide experience of Dr Weir Mitchell and his well known faculty of accurate observation, the paper is a very interesting one and calculated to assist in the elucidation of an obscure and unusual condition

ILLNESS OF PRINCE FERDINAND OF BULGARIA

WE understand that Prince Ferdinand of Bulgaria is suffering from an acute inflammation of the right middle ear, complicated with severe neuralgia of the occipital nerves. Professor Politzer has performed paracentesis of the tympanum. The patient is progressing favourably

FACULTY OF MEDICINE OF THE UNIVERSITY OF BRUSSELS

DR. WARWOTS having been appointed Professor of Operative Surgery, the Dean of the Faculty of Medicine of the University of Brussels has appointed Dr Albert Mills as interpreter for the examinations of British and American candidates who present themselves for the degree of M.D. Brussels. All applications concerning the examination should be sent to Dr Albert C. Mills, 25, Boulevard Bischoffsheim, Brussels

CENTENARY OF THE DEATH OF JOHN HUNTER

IN connexion with the conversazione to be held at the Royal College of Surgeons of England on July 5th, 1893, to celebrate the jubilee of the Fellowship of the College, it has been decided, as this year is also the centenary of the death of John Hunter, to organise an exhibition of pictures, MSS. books, furniture &c. connected with the great surgeon. In addition to the articles which are the property of the Royal College of Surgeons the exhibition will include other relics, the loan of which has been kindly promised by the present possessors. The Librarian of the College will be pleased to give further information to any owner of Hunterian relics who may be willing to lend them for exhibition

THE QUEEN'S VISIT TO FLORENCE

"OUR Lady of Flowers," writes an Italian correspondent under date Florence, 20th inst., 'has for some time been looking her best, as if in anticipation of the royal visit which will be an accomplished fact by the time this letter sees the light. Cloudless skies and a genial sun invite the resident out of doors and stimulate him to brisk exercise all the brisker as he feels the freshness, not to say sharpness, of the air wafted down by the *tramontana* from the Apennines. There is still snow on the more elevated peaks, which not as refrigerators and in the early morning and late evening impart a sting to the wind against which the pedestrian or the carriage inmate should guard. This is just the weather which, on the occasion of her last visit, Her Majesty most enjoyed—enjoyed, in fact, so much that the traditional cavillings at the treacherous Florentine spring' were rather silent during the Queen's *villeggiatura*. The interest taken by Her Majesty in most things Florentine includes many of the charitable institutions of the city and suburb, notably the admirable organisation of the 'Misericordia,' so often described in THE LANCET. That picturesque corps in which peer coöperates with peasant, scholar and artist with tradesman and mechanic, in relieving the sick, transporting them from residence to hospital, or, when medical art has proved abortive, conveying them to the mortuary chapel, is one of the most impressive features of daily life in Florence and merited the minute inquiries into its origin and working addressed by Queen Victoria to its titular chief. Then, again, Her Majesty's known solicitude for the better treatment of the lower creation is expected, as in 1888, to give a

salutary stimulus to the somewhat languishing 'Società' for the 'Prevention of Cruelty to Animals'—a 'società,' it is fair to say, much more efficacious in Florence than in Rome or Naples, but still, even in the former capital far short of the required efficiency. Another organisation in which the humanitarian instincts of the British Queen have quickened Florentine charity is that of the Society for the Protection of Abandoned Infants, and here again the promoters of the movement look to Her Majesty's presence and encouragement as effective influences for good. Concurrently with these special institutions for the relief of suffering, some notice is claimed for that other organisation, of which the leading consultants of the city are at the head, directing the operations of quite a little army of medical workers mostly students, for the treatment of patients too necessitous to be able to call in a regular practitioner. This charity, set on foot since Her Majesty's last visit and from time to time commented on in THE LANCET, is proud to claim the notice of a Sovereign who effectively promotes so many kindred charities at home and who derives no greater gratification than from the spectacle of the spread of the practical humanitarian spirit in the countries in which she sojourns. Public hygiene, too, seems to draw fresh encouragement from Her Majesty's presence. All the sanitary arrangements of the city, including the 'nettezza pubblica' (street scavenging), are already placed under more thorough and vigilant surveillance, and it is to be hoped that these salutary regulations will remain in force long after the immediate occasion that has evoked them has disappeared. As I write the Società Fiorentina d'Igiene has announced the proceedings of its last sitting at which the all important question of water supply was again discussed and practical suggestions were made for the speedy and effective creation of the new aqueduct which is to furnish Florence with a perennial provision of *acqua potabile*. Such are a few of the indications, interesting to the profession, which Her Majesty's approaching visit has called forth—indications which have their place side by side with the other incidents of the Queen's sojourn and explain in some measure the enthusiasm which that sojourn awakens in Italy's most educated city, anxious as it is to bring its social standard up to the British level."

PATHOLOGY OF PARALYSIS AGITANS

IN the *Zeitschrift für Heilunde von Ketscher* has an important paper dealing with this much disputed subject. An abstract of it is given in a recent number of the *Neurologische Centralblatt*. The cases of paralysis agitans with reference to their pathological anatomy, are divisible into two classes—those in which the examination has furnished negative results and those in which various changes have been found in the nervous system, such as hyperplasia of the connective tissue and neuroglia of the spinal cord, alterations in the nervous tissue itself and vascular changes. Similar changes have been described as occurring in the medulla and pons. Three cases of undoubted paralysis agitans have been investigated by von Ketscher. The nervous system, central and peripheral, was examined, and in all three cases changes were found in both regions. The nervous structures showed atrophy, the ganglion cells of the brain were deeply pigmented and altered in form, the nerve fibres, both in the peripheral nerves and in the spinal cord, were degenerated and had in some instances disappeared, whilst the muscular fibres also were atrophied or degenerated. The neuroglia was thickened especially around the vessels and mostly in the posterior and lateral columns. The vessels also were altered, their walls thickened and there were milary aneurysms and small hemorrhages present. Similar changes but slighter in degree, were found as senile changes in patients not the subjects of paralysis agitans. von Ketscher concludes with Borgherini and others, that paralysis agitans is only the expression of an extreme and

appeal for the Italian rural labourer by showing how much the State, in conjunction with the local proprietors and capitalists, could effect for him, and how the result of such action and legislation would be seen in the development of economic and social conditions which would make the pellagra impossible and the elaborate machinery organised to encounter it *une quantité négligeable*. His Excellency Signor La Cava (Minister of Agriculture) replied for the Government and pledged his department to continue its subsidies for the *essiccatori* or furnaces for drying the maize and destroying the parasite that renders it noxious as food, whilst also maintaining the cheap kitchens and the health stations, "aiding and promoting, as it had hitherto done, the initiative of the private local charities." More important still, as an indication of policy, was his assurance that the Government would place funds at the disposal of provincial committees in aid of the "earning power" of the labourer, and, with this view, had already taken steps with the Lombard savings banks to furnish the subvention required. The "Opere Pie" (Italy's equivalent for State charities), he farther suggested might possibly, by transformations in their working, be made to yield more substantial aid than hitherto to the agricultural poor, and he concluded by reiterating the solicitude of the Government to minimise in the meantime and ultimately to stamp out at its origin the pellagra, which costs Italy so much in men and treasure. Altogether, the official reply was about as satisfactory as Signor Suardi Gianforte could have looked for—the heavy strain on the country's finances for the army and navy being considered. He accordingly accepted the Ministerial assurances with an expression of trust in their *bona fides*, of hope in their efficacy and of thanks for the fulness and cordiality with which they had been given.

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HYSTERICAL RAPID RESPIRATION

IN the last number of the *American Journal of the Medical Sciences* Dr Weir Mitchell has a paper dealing with this obscure and interesting affection. From his wide experience he is able to formulate a description of the symptoms associated with the condition. The breathing, he says, is largely upper costal, sometimes exclusively so, and the preservation of the relative share between that and the diaphragm is rare. As a rule it is superficial and without appearance of effort. Usually, also, in the early stage the patient is ignorant of the existence of the symptom, but when once the knowledge is acquired the respiration rate is increased by excitement, such as is induced by the mere approach of the nurse or medical attendant. As a rule, too, the symptom occurs only just after sleep, and may be quite absent—indeed, usually is so—during sleep. Sometimes the symptom is the only distinct expression of hysteria or is not present unless the patient is emotionally excited, he does not moreover think that the type of breathing is a possible voluntary product, whilst he regards the affection in males as distinctly rare. Several cases are related which bear out this description, and amongst them one in which there was a curious and anomalous eruption on the leg somewhat rupial in character, which at first appeared as a mass of pimples. These, during a state of trance, became confluent and formed a scab, an excellent illustration of which is given in the paper. The scab was removed, and under it there was found a greyish white fibrous material, from the surface of which oozed a little blood. The skin round the edges was thickened, hardened and hyperemic, and the area was very sensitive. Nothing else unusual was discovered in the patient's condition except a marked contraction of the colour fields, a chart of which is given. Reference is also made to different forms of rapid respiration, and graphic records of the varieties of these

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On Friday, the 17th inst. Professor Virchow was enrolled as an Honorary Fellow of the Irish Medical Schools and Graduates Association. We report the proceedings in detail in another column.

At a special congregation of the University of Cambridge held on Tuesday, the 21st inst., the degree of Doctor of Science *honoris causa* was conferred upon Professor Virchow. The following was the speech delivered by the Public Orator — "Dignissime domine, domine Procancelarie, et tota Academia Universitatis Berolinensis Rector Magnificus vir non modo de medicina et salute publica, sed etiam de anthropologia, de ethnologia, de archaeologia præclare mentus, vir et sexagesimo et septuagesimo exacto ætatis anno honoribus amplissimis cumulatus satis magnum hodie præbet di cendi argumentum. Ipselaudenostremaior, laudes tamen suas (qua est modestia) invitus audiet, atqui laudes illas non verba nostra qualiacumque, sed ipsius opera insignia, ipsius discipuli illustres ipsius denique orationes disertissimæ, etiam ipso invito satis clare loquuntur. Legistis fortasse orationem illam in qua, Rectoris munus nuper auspicatus, studiorum Academicorum orbe universo lustrato, partium liberalium dux et signifer olim insignis dixit veram Academicæ libertatem esse libertatem docendi, libertatem discendi, ostenditque, qua potissimum mentis disciplina inventus Academicæ discendi amore vere liberali imbui posse videretur. Legistis certe, fortasse etiam audivistis orationem alteram in qua nuper inter scientias biologicas locum pathologiæ proprium vindicavit, et, studiorum suorum origines repetens, non modo Harveii nostri merita immortalia denuo commemoravit, sed etiam Glissonii nostri gloriam prope intermortuam ab integro renovavit. Harveii quidem in doctrina, omne rerum ex ovo nasci, lacunam magnam relictam esse constat, letamur lacunam tantam ab eo magnâ ex parte esse expletam qui primus omnium re vera probavit omnem cellulam e cellula generari. Ergo rerum naturæ in vestigator tantus, tot illustrium præsertim medicorum in Academia, titulo nostro honorifico iure optimo decoratur. Etenim ubicumque florent medicinæ studia cum rerum nature observatione exquisita feliciter conjuncta, talium virorum nomina in honore maximo non immerito habentur. Talium certe virorum per labores verba illa vetera vera facta sunt,

quæ Salutis in templo supra portam inscripta esse debent — *sine rerum naturæ cognitione trunca et debilis est medicina*. Duco ad vos Regiæ Societatis Londinensis unum e focus extraneis, virum gentis Teutonicæ inter decora numeratum, RUDOLPHUM VIRCHOW."

On the 23rd inst. the honorary degree of D.C.L. was conferred upon our distinguished visitor by the University of Oxford.

A CRITICAL EXAMINATION OF THE SO-CALLED "LEICESTER SYSTEM" OF ISOLATION AND QUARANTINE

BY A. T. BREMNER, L.R.C.S., L.R.C.P. EDIN.,
MEMBER OF THE LEICESTER FEVER HOSPITAL COMMITTEE.

THE present outbreak of small pox in Leicester began in the early part of September, 1892, and the time is now opportune to enter into a critical review of the "Leicester method", to compare facts which can be adduced in its favour with those other facts which tend towards its discredit, and to throw the full light of day upon this "system" with all its faults and failings. As a preface it may be remarked as a singular coincidence that the pæans of praise which are sung in season and out of season on behalf of this much vaunted system proceed out of the mouths of members of the anti vaccination party. The supposed brilliant results of the Leicester system have been appropriated by them as the strongest available argument in favour of their peculiar tenets, and these results are set forth for the admiration of an incredulous world as an "object lesson" to be worthily imitated by less enlightened communities. We are asked to gaze upon the "marvellous success" which has enabled Leicester to stamp out small pox on every occasion (except the present one), and to note that this success is obtained without recourse to vaccination. It is somewhat difficult to obtain any clear definition of what the Leicester method really is. For my purpose it will be sufficient to quote the description given by Mr J. T. Biggs, a member of the Leicester town council, and it is needless to say a leader of the anti vaccination movement. Writing in the *Vaccination Inquirer* on Nov 1st, 1892, he says "The marvellous success which for the past twenty years has attended the efforts of the sanitary authorities at Leicester in stamping out small pox without recourse to vaccination is now universally known and admitted. What is known as the 'Leicester method' is now adopted and practised by almost all sanitary authorities everywhere, whether they do or do not profess to believe in the efficacy of vaccination, but from the original 'model' there has been considerable departure by would be imitators. That which in Leicester has become part of the life of a free people has in many other places, in the hands of irresponsible authorities guided by medical interference and prejudice, become an engine of despotic power. What, then, is really our procedure on the notification of a case of small pox? This will, perhaps, be best described in the identical words of our chief sanitary inspector. 'When a case is reported I at once go to the infected house and try to ascertain where the disease was contracted, where the patient has been working, where he has been visiting, and his movements generally for the last ten or twelve days. I also make a point of seeing all persons who have visited the infected house during the time stated, in addition, I visit all factories and workshops where other members of the family have been employed, and by this means have been able to get cases removed when the first symptoms of the disease appeared. Immediately on the removal of the patient I superintend the fumigation of the house with sulphur, liquid disinfectants are used freely in the drains and about the yard, and the ashpit is emptied and disinfected, the next day the bedding is taken to the disinfecting chamber and subjected to the hot air process. Up to the present time I have succeeded in getting almost every person connected with the infected houses into quarantine in a very few cases I have experienced opposition.'"

It is at once apparent that there is no novelty in this, except in the exclusion of vaccination from the means employed, and with the definition as it stands I find no fault, but I must call attention to the very evident fact that isolation as a means of preventing the spread of small pox and other infectious diseases has long been recognised as of the

premature senility of the nervous system, and he is of opinion that the primary changes are in the vessels, those in the nervous structures being secondary

THE HEALTH OF LORD SALISBURY

WE are glad to be in a position to state that Lord Salisbury is steadily recovering from his attack of influenza.

MEDICAL AID ASSOCIATIONS AND THE GENERAL MEDICAL COUNCIL

WE understand that the committee on Medical Aid Associations sat on Friday for seven hours. Six or seven lay representatives of the Associations attended and gave evidence of the working of such institutions, including secretaries or presidents of the Associations at Wolverhampton, Lincoln, Northampton, Luton and Gloucester.

THE SCOTCH FORM OF OATH

THE Home Secretary, Mr Asquith, replying to Dr Farquharson in the House of Commons on the 13th inst., stated that circulars containing the necessary information as to the correct form of administering the oath would be sent to all justices' clerks and coroners. It may be well to point out that similar circulars will have to be sent in respect of grand juries, since we learn from a correspondent that, on his application to be sworn with uplifted hand before a grand jury, the foreman, whose duty it was to administer the oath, was unaware of the form. Fortunately our correspondent had it and was duly sworn. The various high sheriffs of the counties would probably be the readiest medium by which the requisite information could be conveyed.

THE Royal Commission on Vaccination met on Wednesday in Great George street, under the chairmanship of Sir Richard Paget, in the absence of the Lord Chancellor. Dr Klein and Dr William Ogle, Superintendent of Statistics in the office of the Registrar General, gave evidence, and the Commission adjourned over the Easter recess.

MR. BERNARD PITTS, M.Ch.Cantab. & F.R.C.S., Senior Assistant Surgeon to St. Thomas's Hospital, has been appointed Joint Lecturer on Surgery in the Medical School in succession to Sir W. Mac Cormac.

THE Right Hon. Thomas H. Huxley, Hon. D.C.L. Oxon., F.R.S., F.R.C.S. &c., will deliver the Romanes Lecture at the University of Oxford on Thursday, May 18th.

PROFESSOR VIRCHOW

SINCE his arrival in England to deliver the Croonian Lecture of the Royal Society Professor Virchow has been the recipient of many honours. On the evening of Thursday, March 16th, he was entertained at a banquet, at which Lord Kelvin presided. We regret that we have been unable to provide our readers with an elaborate account of the proceedings of a meeting the successful nature of which was due in great measure to the interest taken in it by members of the medical profession and to their attending in large numbers to do honour to their eminent German confrere. The committee of management curiously enough decided not to invite representatives of the medical press to the banquet. It is incomprehensible that a body of managers should take advantage of the services of the medical press for the purpose of bringing the proposed banquet under the notice of the profession and should have neglected to invite the representatives of the organs of the profession, although it would appear that the daily papers were furnished with facilities for reporting the proceedings in their columns. We are sorry to have to strike one discordant note

on such a harmonious occasion, but we feel that in the interests of the profession the matter should not be allowed to pass by without a few words of protest.

We append the list of the stewards who took part in the banquet given in honour of Professor Virchow on March 16th, 1893.—W. H. Allchin, Esq., M.D., C. Arkle, Esq., M.D., J. Andrew, Esq., M.D., Sir Henry Acland, Bart., K.C.B., W. Anderson, Esq., F.R.C.S., W. H. Broadbent, Esq., M.D., Sir James Crockett Browne, LL.D., F.R.S., T. Bryant, Esq., President of the Royal College of Surgeons, R. Baines, Esq., M.D., A. T. Brett, Esq., M.D., H. C. Bastian, Esq., M.D., F.R.S., F. Gordon Brown, Esq., President of the Hunterian Society, J. S. Bristowe, Esq., F.R.S., President of the Medical Society, Hamilton Bland, Esq., M.D., Stanley Boyd, Esq., F.R.C.S., F. G. Barford, Esq., M.D., Lauder Brunton, Esq., M.D., F.R.S., A. E. Barker, Esq., F.R.C.S., T. Bridgwater, Esq., LL.D., W. Bennett, Esq., F.R.C.S., R. Bowles, Esq., M.D., R. Barwell, Esq., F.R.C.S., Adolph Bronner, Esq., M.D., David Berry, Esq., Surgeon Captain R. Ashton Bostock, Sir George Buchanan, M.D., B. E. Brodhurst, Esq., F.R.C.S., C. Beever, Esq., M.D., Lionel Beale, Esq., M.D., R. A. Bickersteth, Esq., F.R.C.S., M. Carteghe, Esq., President of the Pharmaceutical Society, Sir Andrew Clark, Bart., President of the Royal College of Physicians and of the Royal Medical and Chirurgical Society, D. M. Crookshank, Esq., M.B., Sir Thomas Crawford, K.C.B., W. Corfield, Esq., M.D., J. Canavy, Esq., M.D., J. Cox, Esq., M.D., Surgeon General Cornish, C.B., J. Cagney, Esq., M.D., J. Couper, Esq., F.R.C.S., H. Clutton, Esq., F.R.C.S., W. S. Church, Esq., M.D., R. Brudenell Carter, Esq., J. Curnow, Esq., M.D., S. Coupland, Esq., M.D., W. Cheadle, Esq., M.D., F. H. Champneys, Esq., M.D., T. F. Chavasse, Esq., M.D., J. Jackson Clarke, Esq., F.R.C.S., Alfred Cooper, Esq., F.R.C.S., G. Anderson Critchett, Esq., F.R.C.S. Edin., Sir Dyce Duckworth, M.D., LL.D., W. H. Dickinson, Esq., M.D., Sir William Dalby, F.R.C.S., Arthur Durham, Esq., F.R.C.S., Frederick Durham, Esq., F.R.C.S., N. Davies Colley, Esq., F.R.C.S., A. H. Doran, Esq., F.R.C.S., C. T. Dent, Esq., F.R.C.S., J. J. Dunbar, Esq., M.D., S. Delépine, Esq., M.D., Norman Dalton, Esq., M.D., W. R. Dakin, Esq., M.D., W. Day, Esq., M.D., James Davison, Esq., M.D., James Duncan, Esq., M.D., G. Eastes, Esq., F.R.C.S., G. Elder, Esq., M.D., A. Eddowes, Esq., M.D., Sir John Evans, Professor Michael Foster, M.D., F.R.S., Sir Walter Foster, M.D., M.P., Sir Joseph Fayrer, K.C.S.I., M.D., R. Farquharson, Esq., M.D., M.P., R. Flachs, Esq., M.D., O. H. Fowler, Esq., M.D., H. M. Fletcher, Esq., M.D., Willoughby Turner, Esq., M.D., David Ferner, Esq., M.D., F.R.S., W. H. Forsbrook, Esq., M.B., J. F. Goodhart, Esq., M.D., J. Glover, Esq., M.D., Sir Archibald Geikie, LL.D., Foreign Secretary of the Royal Society, A. Pearce Gould, Esq., F.R.C.S., W. C. Grogg, Esq., M.D., John Gay, Esq., C. Golding Bird, Esq., F.R.C.S., R. J. Godlee, Esq., F.R.C.S., C. Godson, Esq., M.D., W. R. Gowers, Esq., M.D., F.R.S., H. Gervie, Esq., M.D., J. H. Gladstone, Esq., Ph.D., F.R.S., G. Harley, Esq., M.D., F.R.S., Sir G. Humphry, M.D., F.R.S., President of the Pathological Society, E. Hart, Esq., F. Hawkins, Esq., M.B., G. E. Herman, Esq., M.D., J. Hutchinson, Esq., F.R.S., J. Hutchinson, Esq., jun., F.R.C.S., Roger J. Hutchinson, Esq., M. Handfield-Jones, Esq., M.D., Victor Horsley, Esq., F.R.S., R. Harrison, Esq., F.R.C.S., W. Hunter, Esq., M.D., T. C. Hayes, Esq., M.D., Donald Hood, Esq., M.D., R. J. Bliss Howard, Esq., F.R.C.S., W. A. Hollis, Esq., M.D., W. H. Hamer, Esq., M.D., the Right Hon. Thomas Huxley, LL.D., D.C.L., Charles Higgins, Esq., F.R.C.S., Sir George Johnson, M.D., F.R.S., H. Juler, Esq., F.R.C.S., Brigade-Surgeon Johnston, Lord Kelvin, President of the Royal Society, Norman Kerr, Esq., M.D., E. Klein, Esq., M.D., A. A. Kanthack, Esq., F.R.C.S., J. S. Keeser, Esq., M.D., F.R.C.S., A. L. Kellgren, Esq., M.D., J. A. Kingdon, Esq., F.R.C.S., J. G. Douglas Kerr, Esq., M.B., J. B. Lawford, Esq., M.D., P. W. Latham, Esq., M.D., Sir Trevor Lawrence, Bart., Sir Joseph Lister, Bart., F.R.S., John Langton, Esq., F.R.C.S., David Little, Esq., M.D., James Little, Esq., M.D., Edward Law, Esq., M.D., Malcolm Morris, Esq., F.R.C.S. Edin., President of the Harveian Society, Sir William Mac Cormac, F.R.C.S., Shirley F. Murphy, Esq., F. J. Mount, Esq., M.D., LL.D., S. Mills, Esq., A. T. Myers, Esq., M.D., Howard Marsh, Esq., F.R.C.S., A. B. Myers, Esq., M.D., Allan MacIndyn, Esq., M.D., Sidney Martin, Esq., M.D., Norman Moore, Esq., M.D., J. A. McIntyre, Esq., M.D., W. Marceet, Esq., M.D.,

to be revaccinated. This person fell ill with the disease in due course and was admitted to hospital. It is incorrect to say that quarantine is carried out without recourse to vaccination and revaccination. True, vaccination is not put into practice as it ought to be, and much which should be done in this direction remains undone, to the continued peril of the public safety.

COMPENSATION OR NO COMPENSATION?

In the article of Mr Biggs referred to above, he says "Another baseless assumption that is frequently used for the purpose of discrediting us is that this Leicester method of isolation, quarantine, disinfection and sanitation is so excessively expensive as to be practically prohibitive. Now, I can show, on the contrary, that our Leicester method is extremely economical as well as effective. Besides, it is now well known that however thoroughly a community is vaccinated, so little reliance is placed upon this supposed safeguard that on the outbreak of small pox recourse is at once had to the very measures which have been so persistently decried when used to the salvation of unvaccinated Leicester. Comment from me is unnecessary, further than to say that compensation for loss of time is not offered, but if, as a precautionary measure, bedding or clothing have to be destroyed, their value is made good." When the "little bill" for compensation for loss of time and for carrying out the other details of the Leicester system is produced it will present a sufficient commentary on this statement. The heavy expenses already incurred may afford an instructive object lesson to all students of sanitation, but will bring small comfort to the already overburdened ratepayers of Leicester. It is not long since one of these so-called "quarantine" persons walked into the presence of the sanitary committee (to the consternation of some of the members) to complain of the £1 a week awarded him as being insufficient, and, like Oliver Twist, he had called to "ask for more."

In face of these facts I ask, "What has become of the Leicester system? The present hospital and its quarantine arrangements are utterly inadequate and have failed in their professed purpose, as has been pointed out again and again in THE LANCET. The hospital can not be regarded as an isolation hospital at all, for with the first small outbreak of small pox it is necessary *volens volens* to clear out all the fever cases. To-day no cases are admitted excepting those of small pox, and the quarantine at the hospital is actually empty. The majority of persons who have been exposed to contagion are now subjected to a process of surveillance at their own homes, and in this way it is proved that this so-called 'system' is nothing short of lack of system. The fact is self-evident to every unbiased mind that we have been living in a fool's paradise, and that an outbreak of small pox of moderate dimensions has been sufficient to prove that Leicester, so far as hospital accommodation and provision for isolation and quarantine are concerned, was ill prepared to cope with the disease. In fact, Leicester at the time of the outbreak of small pox was probably as little prepared to meet it as any other large town. Our recent experiences may perhaps teach us a useful lesson, and when we have provided that hospital accommodation for infectious disease of which we stand so sorely in need, when we have supplied means of isolation and quarantine in practice and not in theory, when we have adopted vaccination and revaccination as our first line of defence—then, and then only shall we be able to claim that the 'Leicester system' is a method worthy of imitation and not a fantastic phrase which means nothing

CHOLERA.

RUSSIA has of all countries suffered most severely from the epidemic. Its geographical position led to its being earliest attacked and the epidemic has continued, more or less with varying degrees of intensity up to the present time. During the latter half of February 305 cases of cholera with 59 deaths occurred in the province of Podolia, and according to the latest reports from St. Petersburg the disease is said to be spreading over Central Russia. The peasants are, it is stated, dying by thousands and the greatest distress prevails through-

out the whole region. The governments most severely visited by the epidemic are Astrachan, Ekaterinoslav and Moscow. Isolated cases of cholera have also occurred during the present month in the towns of Nijni Novgorod, Orel, and Yaroslavl and in the province of Kieff. In view of the possible outbreak of cholera in the Trans-Caspian Province it has been decided, as a precautionary measure, to establish a sanitary cordon on the frontier of Khorassan and Afghanistan. Moreover the Minister of Ways and Communications is about to make a sanitary inspection of all the Russian railways. A congress of sanitary officers will meet at St. Petersburg shortly to consider the measures to be taken in the event of a general reappearance of cholera this spring and in the coming summer.

From L'Orient (Brittany) we learn that many cases of cholera have appeared during the present month. Six deaths occurred in eight days among patients presenting choleraic symptoms, and on the 16th inst. it was stated that four fresh cases had occurred.

In connexion with these facts it is interesting to note that frequently the earliest indications of an epidemic spread of cholera in India outside its endemic area are the occurrence of sporadic cases in various places or localised outbreaks on a small scale in March and April, and the disease has been named in consequence spring cholera, to denote the season of its prevalence.

As regards the proceedings of the International Sanitary Conference, it is believed that these have been confined to the discussion of general questions. According to the special correspondent of *The Times*, there is a general impression that the delegates from the greater number of the Powers concerned will endeavour to remove or minimise, as far as practicable, restrictions on traffic and commerce, and that their efforts in this direction will be supported by the delegates from this country and aided by the influence of some of the scientific experts from Germany and the Continent in general.

THE PROPOSED MEDICAL SCHOOL AT CARDIFF

ANOTHER step forward has been taken by the Council of the University College of South Wales and Monmouthshire towards the establishment of the projected School of Medicine at Cardiff in connexion with the College. Last week Dr A. W. Hughes was appointed Professor of Anatomy and Dr J. Berry Haycraft Professor of Physiology, and it is expected that the formal opening of the school will take place in October next. Both these gentlemen are well known as teachers and investigators in their respective subjects, and, having already had considerable experience in the teaching and the organising of teaching in medical schools, will considerably strengthen the scientific branches of the professorate of the University. We congratulate South Wales on obtaining the services of such well trained professors for their new chairs, but we cannot avoid pointing out that salaries of £350 per annum, without a share of the fees paid by their students, are quite insufficient to retain their services for any period of time should they be offered similar chairs in other medical schools. Cardiff boasts of its goodly list of scientific institutions, but it will scarcely urge that its liberality in endowing professorial chairs is also a feature of which it may be justly proud. The University College of South Wales has been very successful in passing its students at the Preliminary Scientific M.B. Examination at the University of London, and this new departure will enable it to teach students for the intermediate M.B. examination and for the second examination of the Conjoint Board for England and for the corresponding scientific examinations of the other licensing authorities. We have no doubt that all this work can be well done at provincial centres of education, provided the teachers and the material are forthcoming as they should be at a place of the size, position and importance of Cardiff. It is just possible that there may be some difficulty with regard to the practical instruction in anatomy, but this will mainly depend on the size to which the proposed school will ultimately attain. In addition to the more strictly scientific part of the curriculum,

highest importance. It is not peculiar to Leicester, on the contrary, such means for isolation are supplied by the sanitary authorities of every large town in the kingdom and of many rural districts, and are carried out in many towns more rigorously and more efficiently than in Leicester. I may here express my ardent appreciation of the principle of isolation and quarantine, with the distinct proviso that this principle to be effectual must be carried out on rational and scientific lines. It is puzzling to ascertain why any special credit should be taken for this procedure when we reflect that the advantages of isolation have been known from an early period of the world's history, and were appreciated even in the year B.C. 1490. This period being somewhat antecedent to the anti vaccination movement, the statement of the above historical fact disposes of any pretensions to originality which may be advanced. It will thus be seen that so far only those ordinary measures are put in force which are adopted by all careful sanitary authorities, there is, in fact, nothing original in the means employed.

The essential point in which the Leicester system differs from all other systems consists in the claim which is put forth by its advocates with tireless reiteration, that the sanitary measures I have named are sufficient to stamp out any outbreak of small pox which may arise without recourse to vaccination.

To again quote Mr Biggs from the article named above "Vaccination has rapidly declined in the borough, now being only about 2 per cent of the births, and small pox mortality has disappeared from our midst." No comment is necessary, except to state the simple fact that since Sept. 7th, 1892, 132 cases of small pox have occurred and ten persons have died in Leicester of that disease. If we were disposed to consider in a serious light the extravagant pretensions which are claimed for the success of the Leicester method by certain misguided enthusiasts we might almost be persuaded that we had reached a state of sanitary perfection. It is true that large sums have been spent—and very properly spent—in putting Leicester into a good sanitary condition, and the highest praise is due to the town authorities for their excellent results in this direction. The immense outlay has already been rewarded by an improved state of the public health, and the lowering of the death rate is in a great measure due to this wise expenditure. It will however, scarcely be credited that the decreased death rate from all causes is not attributed to the true reason named above, but, practically, to the abandonment of primary vaccination. We have been accustomed to hear these loud voiced laudations of the Leicester system cried from the housetops during those times when the town has fortunately been free from small pox, but the tune is now pitched in a minor key, as public opinion is awakening to the fact that on this first occasion on which the system has been fairly tested it has been tried and found wanting. It would naturally be inferred by outsiders that the means employed are perfect in their character and the organisation used unrivalled in its method, that we have reached a degree of excellence which places Leicester above all other towns in its special mode of dealing with small pox isolation and quarantine, that in our capacity as "superior persons" we wish to demonstrate to the world how to do it and how not to do it, and, lastly, to show that these wondrous results are gained because we have a free hand, unfettered by "medical interference and prejudice," and that our success is reached with out any resort to that "medical superstition"—vaccination.

PROVISION FOR ISOLATION IN LEICESTER.

The Leicester Fever Hospital was constructed in an emergency for the reception of small pox cases, and so long as it was reserved for that end it fulfilled a useful purpose. With the disappearance of the small pox epidemic of 1871-72 it gradually became a hospital for infectious diseases generally. For many years it has been chiefly used for the reception of scarlet fever cases, the three principal wards being devoted to this purpose. These wards open into a common corridor, possess each a small side room and on the opposite side of the corridor, and also opening into it are the various rooms connected with the administrative department. At the western extremity of the main building, and at right angles to it, is the small pox block. The end of this block is within ten feet of the main building, and this fact is sufficient to condemn the hospital from the point of view of isolation. At the eastern end of the hospital site is a block known as the "erysipelas ward," so called because it scarcely ever contains an erysipelas patient. This ward in its time

has played many parts, and at the period when small pox appeared in the fever wards was full of convalescent scarlet fever cases. These children were then sent to their homes, and the erysipelas or convalescent fever ward was at once transformed into a quarantine building, forming the next stage in the "object lesson" which we are invited to admire. It will thus be seen that when small pox broke out in the overcrowded fever wards, with the exception of the small side rooms which form an integral portion of, and communicate directly with, the large wards, there was not in the whole hospital a single room which could be appropriated to the observation of a doubtful case.

NURSES' ACCOMMODATION.

During the course of the present outbreak of small pox one of Humphreys' buildings has been erected for the separate use of nurses engaged in the small pox ward. Up to this time the nurses engaged in this duty were compelled to sleep and take their meals in the same building in which the patients were placed. Owing to lack of accommodation on the premises certain officials of the institution have been accustomed to sleep at their homes in the town, thus constituting a serious danger to the public safety. One of these (a laundrywoman) was actually attacked with small pox and admitted to the Small pox Hospital as a patient where, I regret to say, she afterwards succumbed to the disease. Is it not a sad reflection on the "Leicester system" of isolation and quarantine that such laxity of arrangements is permitted to prevail in respect of the hospital attendants, whilst at the same time insisting upon the necessity of quarantine so far as private individuals are concerned?

QUARANTINE ARRANGEMENTS.

Two small rooms directly communicating with each other and with a passage in the main building are known as the "old quarantine." These rooms are in close contiguity to the fever wards and are not far removed from the small pox block. So long as we have had only an odd case or two of small pox to deal with these rooms have sufficed for the object in view and have formed the mainstay of our system of quarantine. It is hardly necessary to point out that the position of these rooms has been a source of continual danger to their inmates. The large erysipelas (?) ward is now used for quarantine purposes and is as cheerless a habitation as can well be imagined. In this building live the persons who have consented to do their "fourteen days'" observation. I must here acknowledge that these people are treated with every consideration so far as is compatible with deprivation of liberty, and that they are supplied with all the necessaries of life in the form of good food, together with some of its luxuries in the shape of tobacco and beer. On Oct. 31st, 1892, the hospital was more than full, containing 158 patients suffering from scarlet fever. Of this number 84 were vaccinated, including those vaccinated by the medical officer of health. Of these 84 vaccinated children not one contracted small pox. The remaining 74 were unvaccinated, 13 of these contracted small pox and 4 died. Small pox having broken out amongst these children it became necessary to send the remaining scarlet fever cases to their own homes, where they were kept under observation, and some of them were readmitted to the hospital suffering from small pox.

The recital of a few prominent facts regarding quarantine will be sufficient to show that it is not so rigorous as is represented, that it is, indeed, of the most elastic character. It consists of at least four varieties. 1. Small pox patient removed to hospital and all inmates of house to quarantine. 2. Patient removed but other inmates left at home, "compensation" being awarded to induce these persons to keep from work. 3. Patients from public institutions—e.g., infirmary, workhouse and also from common lodging houses—are removed to hospital, and the other inmates are daily inspected to see how they are "getting on." 4. Patients not removed to hospital and other inmates not removed to quarantine. During the present outbreak, so far as it has gone, 205 persons have been quarantined at the hospital, whilst 723 have been watched at their own houses or at work houses, or in common lodging houses. The contrast between these figures is most significant, and is largely due to the fact that small pox broke out in public institutions and lodging houses, the inmates of which it was clearly impossible to quarantine at the hospital. Quarantine being a voluntary act, "part of the life of a free people" in October we met with the first refusal in the case of a person who absolutely declined to enter hospital quarantine and as firmly declined

IRISH MEDICAL SCHOOLS' AND GRADUATES' ASSOCIATION

THE annual meeting of this Association was held on St. Patrick's Day, March 17th, at the Medical Society's rooms, Chandos-street. The chair was taken by Sir Thomas Crawford, K.C.B. Special interest attached to the occasion, as the Association was honoured with the presence of Professor Virchow of Berlin, who had responded to the desire of the council to elect him as an honorary member.

Sir THOMAS CRAWFORD said the honour of introducing Professor Virchow to the Society had unexpectedly fallen upon himself in the absence of their senior Vice President, Dr. Macnaughton Jones. Professor Virchow had already received a hearty and cordial reception from the members of the profession in London, but, although they were a smaller body, in no portion of the medical society of London could he be more warmly appreciated or more heartily esteemed than he was in the Irish Graduates' Association. Addressing Professor Virchow, Sir Thomas Crawford said he had great pleasure in being enabled to enrol his name as an honorary member of the Association, and also in re-echoing what was so ably said at the Hotel Métropole banquet as to the manner in which his distinguished services to the profession had been appreciated, not only in his own country, but also throughout the whole civilised world.

Professor VIRCHOW expressed his gratification at meeting such an honoured body of graduates from the Green Isle. It had long been his wish to visit that country, but it had been hitherto impossible for him to accept the invitations he had received from Dublin. He hoped they would accept his hearty thanks for the reception they had accorded him and convey his good wishes to their confreres. He spoke of the esteem with which the degrees conferred by Trinity College were regarded in Germany and of the high reputation borne by the Irish medical schools. Professor Virchow then inscribed his name on the roll of members.

The CHAIRMAN said the Association had also had the privilege of enrolling Sir James Paget as one of its honorary members. Sir James Paget was not an Irish graduate in the Irish sense of the term, but he was a graduate of every college and university which respected itself, and, like Professor Virchow, he enjoyed the honour of the world at large.

Professor Virchow then left amidst renewed demonstrations of applause.

The minutes of the previous annual meeting having been confirmed,

Dr. CAGNEY (hon. sec.) read the sixteenth annual report, which stated that the present total strength of the Association was 701. It was now the second largest association of medical men in the English dominions, and, consisting entirely of Irishmen or of those who had the interests of Irishmen at heart, it should have great weight in deciding the course of events which bore directly upon the reputation of the Irish schools and upon the fortunes of Irish practitioners at home and abroad. This reputation and these fortunes had become the special care of the Association. The exclusion of Irish and Scotch diplomats from honorary appointments on the staff of certain English hospitals was referred to, and the Association was resolved to spare no pains to procure the abolition of the anomaly. An attempt had also been made to induce the medical authorities of the chief London hospitals to reconsider their policy, and the council was not without hope that they might in time come to hold the more liberal view which experience had shown to be that generally taken by the charitable public whom they represented. It had been ascertained further that Guy's and University College Hospitals, as well as St. Mary's Hospital, repudiated the necessity for restriction of any kind. On the other hand, there was one hospital at which the highest degrees of the Irish and Scotch Universities were expressly rejected and an English degree was required, as well as an English diploma, from candidates who sought an appointment upon its staff.

Dr. MAROTER moved the adoption of the report, which was seconded by Dr. W. H. BOURKE and agreed to.

On the motion of Dr. MAROTER, seconded by Dr. WELLS, it was agreed to elect Dr. Richard Heath as president-elect for the forthcoming year.

Sir Thomas Crawford, Dr. Macnaughton Jones, Professor McAlister and Dr. Fernin were elected as vice-presidents, after which the usual votes of thanks were passed.

The following members were elected as the council for 1893-94.—Dr. P. S. Abraham, Dr. W. A. Carte, Dr. J. Davison, Mr. P. C. Hayes, Mr. C. H. Hartt, Mr. J. J. Lough, Dr. H. H. E. Phillips, Dr. F. J. A. Waring, Mr. W. D. Waterhouse, Dr. W. H. White, Dr. W. Barter, Mr. W. Stoker, Dr. T. M. Dolan, Mr. G. Stoker, and Mr. R. J. Swan.

The annual dinner of the Association took place the same evening at the Holborn Restaurant. Sir T. Crawford, K.C.B. (in the chair), was supported by Sir Walter Foster, M.P., Sir William MacCormac, Dr. Gilbert Smith, Dr. Mapother and others, and the guests included the Dean of Norwich, Professor Clifford Allbutt, Dr. Ferner, F.R.S., Mr. MacKellar and others. The usual loyal toasts having been given, the Dean of Norwich spoke for the visitors. Dr. Ferner proposed the "Health of the Association," and Dr. Crawford Hayes that of the "Universities and Corporations," to which Professor Clifford Allbutt replied. An excellent programme of music, to which Mr. J. G. Robertson and Mr. Cheesewright contributed, added to the success of the evening.

THE SEVENTH INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY

THE Transactions of this Congress are now being distributed by Messrs. Eyre and Spottiswoode, who have acted as its printers and publishers. The time which has elapsed since the close of the Congress (August, 1891) is considerable, but no one who is acquainted with the difficulties and delays necessarily involved in dealing with manuscripts in foreign languages and in transmitting proofs to almost all parts of the world will feel inclined to seriously complain of any delay in issuing these thirteen volumes, extending collectively to something like 3400 pages and amounting in the mass to more than fourteen tons of printed matter. The Transactions are considerably more bulky than those of any of the previous Congresses, and as each section has a volume to itself it is easy to find those matters in which the reader may have a special interest. Dr. Shelly of Hertford, who has acted as Editor for the Congress, is certainly to be congratulated upon the successful termination of his heavy labours. Each volume has a good index, and in the final volume (Miscellanea, vol. xiii.) will be found not only an index of authors but the index of each of the other volumes as well, so that to find any particular paper or discussion it is only necessary to take one volume from the shelf. The volume devoted to Miscellanea contains, in addition to indices, the list of members and delegates (British, foreign and colonial), the names of the institutions, municipalities &c. which sent delegates to the Congress, the list of donors, and also complete lists of all the officials. There is a short report by Sir Douglas Galton, a longer and more detailed report which is signed by Dr. Corfield, the honorary foreign secretary, and Dr. Poore, the honorary secretary general, who were also honorary secretaries to the Organising Committee. This report contains many statements which tend to show the magnitude of the Congress. For instance, we find the following which may be quoted.

As regards the numerical strength of the Congress, the following facts may prove of interest. First as regards the delegates, it will be found that 316 municipal, learned and philanthropic bodies in the British Islands appointed 636 delegates, 39 bodies in India and Ceylon appointed 67 delegates and 19 bodies in the British colonies appointed 27 delegates. This gives a total of 780 delegates, appointed by 364 bodies in the British Empire. In addition to this, 25 Governments and 197 municipal and other bodies in foreign countries appointed 352 delegates so that we have a total of 1132 delegates appointed by 586 Governments, corporate bodies and associations throughout the world. The numbers of the delegates appointed by various bodies in foreign countries were as follows: Governments and Government departments 144, cities, corporations, and provincial councils of health, 108, medical and other professional and scientific societies 73, universities, colleges and faculties of medicine, 65, hygienic societies, 40, and other bodies, 6. The same delegate was frequently appointed to represent more than one body. Many of those persons who were appointed delegates were unable, from various causes, to attend the Congress, but, on the other hand, a very large number of persons interested in hygiene and demography

it is also proposed to give a certain amount of clinical teaching and practical work to students at the Cardiff Infirmary, and to provide systematic courses of lectures in such advanced subjects as obstetric medicine and in medical jurisprudence, thus aiming at a complete medical education, both theoretical and clinical, and on a practical as well as on a merely scientific basis. The training is to be a thorough one, and the idea of the founders of the medical school is obviously to keep the student mainly, if not exclusively, in Cardiff. Early scientific education can be effectively and advantageously carried out in the provincial colleges, but a complete medical training in the practical branches of our art can only be obtained in the very largest centres of population. Clinical material of sufficient variety and clinical teachers of the first eminence can seldom be found together in provincial cities or towns, and even if the latter exist there they will always be under a temptation to move to larger areas. Medical science and art cannot be provincial without having the tendency to become unduly narrowed.

THE GENERAL COUNCIL OF THE EDINBURGH UNIVERSITY AND THE COMMISSIONERS' DRAFT FINANCIAL ORDINANCES

A SPECIAL MEETING of the General Council of the University of Edinburgh was held last week and was summoned mainly to receive and consider the report of the Committee on Ordinances, more especially on the draft financial ordinances issued by the Commission. The report deals, in the first place, with the proposed scheme, pointing out that it is intended that the class fees, instead of being paid to the professors directly, are to be paid to an official of the University Court and are to go to a fee fund. Each professor is to receive, firstly, the endowment on the Parliamentary grants attached to his chair and, secondly, a sum from the fee fund sufficient to bring up his salary to the "normal salary," which is fixed by the Commissioners in each case. The normal salaries are to vary from £500 to £1400 a year. This so-called "normal salary," the report points out, is really the maximum salary, as no provision is made for an increase beyond this. There is, on the other hand, provision that the emoluments from a chair shall not fall below what is called the "minimum salary." In so far as the salary may exceed the minimum rate, the only guarantee is the fee fund, and the "normal salary" can only be attained if the fee fund is able to meet all the calls made upon it. The report takes up, firstly, the fee fund, and cordially approves of the general principle underlying it, but the committee have had to consider whether the fees of students should be collected into a separate fee fund for each faculty or go into a common fund, and on this important point the committee does not come to a decision, considering it could hardly do so without more knowledge as to the provision the Commission proposes to make for the payment of lecturers &c. Taking up, then, the question of minimum salaries, the committee approves of the principle that a minimum salary be guaranteed, but it highly disapproves of a separate minimum for each chair. The reason for opposing this is that a professor's status is not affected by the subject he teaches or by the number of classes he teaches, neither ought his guaranteed minimum salary to vary with these conditions. A varying or graduated minimum seems wrong in principle. The minimum ought to be as high as the University can afford, but it ought to be the same for all. The committee considers that the irreducible minimum ought to be £500 a year. The proposal to which the committee object most emphatically in principle is that of a fixed maximum salary, called by the Ordinance a "normal salary." Quoting from the report by the University Commission of 1878, as follows: "It is desirable, if possible, to give every professor the incentive to exertion which the dependence of a portion of his income on the success of his teaching and the number of his students gives," the committee adhere to the principle expressed therein. The Commission, instead

of modifying or regulating the stimulus of material success as was desirable, has proposed to abolish it altogether, and the committee regard this as a serious and fatal mistake. The report says "As long as human nature is what it is, men, even learned men, will be incited to exertion by a regard for their own interests as well as by other legitimate motives. Scottish professors have not shown themselves to be more insensible to that influence in the past than other men." If this plan be adopted, "every professor will be invited to realise the fact that his most assiduous exertions and most brilliant efforts, though they may double the number of his students, will add nothing directly to his own income; and, on the other hand, that his income will suffer no appreciable diminution even after he has emptied his classroom by the latest reading of the dullest lectures." It is pointed out by the committee that the Senate have recommended that after receiving the minimum each professor should receive all his fees until a second fixed point is reached, after which he should receive one third of his fees, the remaining two-thirds going to the common fund. Another scheme that has been proposed is that after the minimum salary is paid the surplus should be divided into three parts—one to go to the professor, one to his faculty and one to the University. The committee does not commit itself to either of these, but it appears to think either of them better than that proposed by the Commission. As for the question as to whether or not there ought to be a superior limit and a maximum salary, the committee think that the maximum is determinable by consideration of the number of students a professor is competent to teach and to examine in each class, and that the University Court should be called upon to fix it in each case upon this principle. On the matter of vested interests the committee point out various faults in the Ordinance, and they hold that in all future appointments to chairs in medicine the University Court should have liberty to revise the conditions of each chair. The objections to the Ordinance are summarised as follows:—1 The proposal of separate minimum salaries for each chair cannot be justified in principle, whilst it would prove invidious in practice. 2 The withdrawal from the professors of all direct interest in the success of their classes is an unnecessary interference with the natural incentives to energy and enterprise. 3 The limitation of salaries to a rigid normal or maximum, differing for each chair, is an artificial arrangement, calling for a constant readjustment in the future to changing conditions, a readjustment which is not provided for. 4 The proposed relations of the different faculties in regard to the fee fund would interfere with harmonious working in the Senate and might lead to serious injustice.

The main amendments proposed are:—1 There should be a uniform minimum salary of £500 a year guaranteed to each chair. 2 Each professor should retain a certain interest in the fees paid for his class. 3 The upward limit of salary should be determined by decisions of the University Court fixing the extreme number of students to be taught in a single class.

The adoption of this report was moved by Mr TAILOR INNES, Advocate, and seconded by Mr SCOTT DALGLEISH, LL.D., and unanimously agreed to.

The report of the Finance Committee was then submitted. It criticises very severely the proposed financial arrangements by the Commission. It states that the committee doubt the wisdom of the Commissioners' plan of attempting to find salaries for the non medical chairs out of fees earned in the medical faculty. These fees, it is stated, are liable to violent fluctuations and it is suggested that the Commissioners have been induced too readily to draw for general purposes upon the medical fees in consequence of the attitude of the medical professors who represented to the Commissioners that additional chairs were not wanted in the medical faculty. How far this view is correct the report does not inquire, but it says that it is certain that a large body of non professional medical opinion is satisfied that greatly increased teaching power and appliances are absolutely necessary for the Medical School is to hold its own in competition with newer institutions. The report further states that the committee was favoured with a memorial which contains the fees for 1891-92, that the shrinkage there shown greatly exceeds the committee's estimate, and that the figures given by the Medical Faculty prove that without any further shrinkage in the current or future years the Commissioners' surplus of £8225 from the medical chairs has fallen below £2500. This report was also unanimously agreed to.

that of the best regulated private dwelling Preventive medicine, as applied to communities, could also claim to have gained by bacteriology as was last year shown clearly enough in connexion with the dreaded cholera Pasteurism could also claim to have already originated cures for some diseases, and the promise for the future was in this direction exceedingly rich Bacteriology had, moreover given us the knowledge not only of the minute organisms themselves as exciters of disease, but also of their action through the toxic substances they produced. In view of all this, would it be too much to describe Pasteur's first discoveries as epoch making and to give to him a place only second to Darwin in the history of the science of the past thirty years? "But it may be asked," Dr Grieve continued "what have we as practitioners specially to do with these matters which are apparently mainly questions of science? It is true that to very few of us is given the opportunity of developing into skilled bacteriologists, but it is open to us all to be to a greater or less extent skilled clinicians This being the case, it is possible to utilise the knowledge provided for us by the bacteriologist and in some cases, it is to be hoped to add to it. If the scientific laboratory is not at our command, the huge laboratory of nature is at all times carrying on its operations under our eyes, independently of our actions and after all it is in this laboratory that the facts of bacteriology, as facts in all branches of scientific medicine, must receive their final confirmation Now the local circumstances render the conditions under which these natural experiments are carried on more simple and more easily followed than they are in a European community Here the population is in great part sparsely scattered over a considerable space and lives under the most simple conditions The course of disease and its origin are therefore more easily traced than they are in huge collections of people with complex surroundings" "It was," said Dr Grieve, "with the hope of exciting a deeper interest in this study that the subject of this year's address had been chosen."

VICTORIÆ REGINÆ ET IMPERATRICI FLORENTIA

S P D

BRITANNA regum filia, sunt tibi
Flores et omnis copia narium,
Quoscumque de villis odores
Aura rapit zephyri jocosa,

Jamdudum apud me, Rumpe, precor, moras,
Caliginoso sub Jove frigidam
Urbem relinques et fruare
Delicias tibi destinatis

'Regina salve! grata redis!' sonat
Natura multis vocibus, in tui
Surgunt honorem nunc fluentia,
Nunc juga de nivibus renata

'Te dulce, primo vere tepentem'
Cælum salutat, te nemus avidum
Auro rendens et smaragdo
Lumine sub trepidante Phœbi.

Te siqua ramo cantat avis suad
Invitat almam, quin et Oreades
Fœnique conjunctis choris
Te celebrant propriumque nomen

En noster Arnus nec Tamesis invidens
Aucto amplexos agmine vortices
Volvit coercentesque ripas

Vix patitur dominosque pontes,

Ut hospitali dicat Etrurie
Quous propinquet femina, cui suam
Recludat Urbem qua recepta
Non semel edat Io triumphe!'

Natura nec te sola, sed Ars vocat
Tuscas ad aras, seu tibi dædala
Pictura, seu sublimis Edes
Sive placent animosæ signa.

Cur invideas tot referam domos
Musis sacras, unde polior
Vundus voluantes serenans
Haurit et in meliora tendit

Cur in Poeta commorer Inferas
Visente sedes, Virgilio duce,
Ignemque Purgantem et beatas
Quotquot habet Paradisus arces?

Me Pallas olim matribus addidit
Scientiarum, me propriam colit,
Me nutrit ut fiant Etrusca
Ambigue regione Atheæ.

Digneris ergo, nobilis hospita,
Paulum morari collibus in meis,
Rerumque laxatis habenis
Sollicitam recreare mentem,

Donec novatis viribus Insulas
Revisis Anglas, consulere aptior
Quid causa communis requirat,
Quid populo tenet labores

Christo minorem te Domino gere,
Augusta Princeps, cui datur imperi
Porrecta majestas ad ortum
Solis ab Hesperio cubili,

Sic tuta regnes, sic tibi prospere
Conata cedant omnia, sic pia
Reddare celo sic Britannis
Culta colendaque sis per ævum

J P STEELE, M D EDIN

Florentiæ in Die S. Patrici, M D CCCXCVIII.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT

REPORTS OF MEDICAL OFFICERS OF HEALTH.

River Tyne Port Sanitary District—Dr Armstrong has issued a very complete report in reference to his district. It shows evidence of considerable vigilance and activity, and cholera certainly ought to find some difficulty in breaking through the Tyne defences. Owing to the delay arising from the medical officers, when examining ships, being carried far up the river above the boarding station, the Tyne Pilotage Commission gave orders that all vessels which required to be medically examined were to be slowed on passing the hailing station. Detention at the mooring station was only practised in the cases of vessels having possibly infected water ballast or bilge water, which it was necessary to pump out before docking. Dr Armstrong draws the attention of the authority to two sources of danger against which it is important to provide—viz, infected ballast and infected cargoes or holds. He states that "the means of dealing with ballast of infected fresh water or freshwater sand are not satisfactory, the appliances for disinfecting on a large scale are insufficient. During the year 1892 there were 1485 vessels boarded by the officers of the port sanitary authority on account of their having come directly or indirectly from foreign ports infected, or suspected to be infected, with cholera fever or small pox. Three masters of vessels gave false reports as to the health of persons on board. Emigrant vessels have been visited by the inspector on arrival and kept under supervision whilst in port. Some 9852 vessels, including 714 fishing boats, were inspected during the year. 151 structural defects were observed and 149 were remedied on notice. 1085 notices were issued to abate nuisances or remedy sanitary defects. In 524 cases the drinking water was ordered to be changed and the tanks to be thoroughly cleansed. As Dr Armstrong observes it is much to be regretted that port sanitary authorities possess no legal power to deal with provisions supplied to seamen which are unfit for food. The only way they can be dealt with is as nuisances under the Public Health Act. The addresses of 3079 persons were taken in accordance with the cholera regulations. Four seamen gave false addresses and were fined £10 each with an alternative of seven days imprisonment. Sea burial in the case of a corpse dead of cholera was not thought desirable owing to the shallowness of the North Sea and the possibility of the body being dredged up by the trawlers. 135 vessels with freshwater ballast taken in at infected ports were ordered to be pumped out and the bilges of all vessels from infected ports were

became members of the Congress on their own initiative. There were altogether 2483 full members of the Congress, of whom 1887 were inhabitants of Great Britain, 58 inhabitants of India and the colonies and 538 inhabitants of foreign countries. In addition to the 2483 full members of the Congress there were some 400 lady members and about 200 representatives of the press both British and foreign, to whom complimentary tickets were accorded. Thus, the total number of our guests during the Congress week exceeded 3000.

"The success of the Congress has been very largely due to the division of labour and the zeal with which each department was worked, but as the organisation of the parts became more perfect the work in the central office became steadily more arduous, until at last the mere labour of opening letters and ordering the correspondence occupied several hours daily. During the session of the Congress the paid and honorary staff amounted to more than 100 persons, and some idea of the work involved by the organisation may be gathered from the statement that 195,250 circulars, 110,310 programmes, and 20,000 invitation cards and programmes were disseminated, whilst the general correspondence took over 22,000 sheets of note paper and correspondence cards."

LOCAL CONTROL OVER DRAINAGE

WE had occasion in our issue of March 18th to comment upon a letter, which appeared in the *Builder* for Nov 5th, 1892, from Mr Arthur Baker, F.R.I.B.A., on the subject of the control exercised by local authorities over drainage and sanitary work. Since then we have received from Mr Baker a further communication, in which his views on the matter have been more fully laid before us. After dwelling upon the great advances that have been made in recent years in sanitary science, Mr Baker compares the actual progress we have made in practical house sanitation with the amount of knowledge we possess upon the subject, and is constrained to admit how great indeed is the difference between theory and practice. With respect to the generally insanitary condition of house property, Mr Baker quotes the opinions of two medical officers of health—one of a fashionable West-end parish and the other of a poorer district—in which the former states that he does not believe that a dozen houses could be found in any street in a satisfactory sanitary condition, and the latter that a dozen houses constructed according to the standard of modern sanitary science could not be found in the whole parish. Likewise to the point is the case instanced by the writer of a client who searched in vain for a house at the annual rental of £55 in which the drainage had been planned according to the most advanced ideas of sanitary engineers, and who, in despair, was in the end obliged to pay the money out of his own pocket to attain his ambitious ideal. In casting about for the reasons of these shortcomings Mr Baker eventually reduces them to two—(a) The defective provisions in the Public Health Acts relating to the qualifications of sanitary officers, (b) the absence of uniformity in the codes of bylaws adopted by local authorities.

In commenting upon the qualifications necessary for the post of medical officer of health, Mr Baker says "Of the value of the diploma as showing a complete knowledge of physics, chemistry, analysis of air and water, the laws of heat, pneumatics, hydrostatics, the disposal of sewage and statistical methods, I cannot pretend to judge, but as regards house drainage and sanitation, I venture to think that the test is neither sufficient nor satisfactory. In the examination by the Royal College of Physicians and Surgeons only three questions out of fifty-five, and those of the most elementary kind, relate to this subject, and in the Cambridge University examination I only find two questions out of twenty-seven." Our correspondent has also very little hope that the knowledge upon which such slight stress is placed by examining bodies can with any certainty be acquired by the six months' practical training with a medical officer of health, for he says "If the unfortunate candidate falls into the hands of such medical officers as I have known, who either think that a stinking drain is both natural and harmless or that a longhopper is a sanitary apparatus, or is ignorant of the danger to health likely to arise from the use of certain forms of grease traps, the syphonage of traps from want of proper ventilation of soil and waste pipes, and the imperfect execution of other

details, he will become a medium for the dissemination and perpetuation of sanitary heresy." Equally poor is the opinion entertained by Mr Baker of the knowledge of sanitary surveyors, for he believes that these officials may be and are most frequently appointed without any test of knowledge of house sanitation being imposed.

We venture to think that Mr Baker's views are somewhat pessimistic regarding the education of medical officers of health. The fact that the questions set at the written examination for the diplomas of Public Health held by the Royal Colleges of Surgeons and Physicians and the University of Cambridge, respectively, contain so few questions on house sanitation cannot be advanced as an argument in support of the contention of the slight importance in which the subject is held by the examiners. These tests consist not only of a written but also of a practical portion, and Mr Baker may rest assured that a subject of such first-rate importance in the future work of the candidates always receives its due share of attention at the hands of the examiners. We are also in a position to state that the subject of house drainage is one which is attended to with scrupulous care in the preparation of candidates for the public health diplomas and that practical demonstrations of apparatus and house drainage are repeatedly given to students. As regards the appointment of sanitary inspectors, any local authority not caring to insist upon a sanitary qualification would at present be quite within its rights, but on and after Jan 1st, 1895 it will be necessary for candidates appointed to such posts either to be the holders of a certificate granted by a body recognised by the Local Government Board or to have had three years' experience prior to 1895 in some London district with a population of not less than 20,000 inhabitants. Whilst we must insist that the tests which medical men are subjected to before a diploma in sanitary science can be obtained are sufficient, we cannot deny that the amount of house inspection personally carried out by the medical officers of health of London is far too small. The reasons for this are no doubt complex, but we believe that one of the chief reasons will be found in the fact that the medical officer of health is not required to devote the whole of his time to his sanitary duties. Indeed, the pitiful salaries so frequently offered by local authorities to their public health officials successfully prevent men from giving themselves completely up to the work, however inclined they may be to do so.

As regards uniformity in the codes of bylaws adopted by sanitary authorities, we do not see how this could be effected save by legislation. Could the adoption of the model bylaws of the Local Government Board, enlarged and extended, be enforced throughout the country, no doubt a great impetus would be given to house sanitation.

BRITISH GUIANA MEDICAL ASSOCIATION

THE quarterly general meeting of this Association was held on Jan 26th. Dr Robert Grieve, Surgeon General and President of the Association, was in the chair, and the members present were Messrs Wallbridge, Williams, Rowland (secretary), Gomes, Hill, von Winckler, Teixeira, Conyers, Rohlehr, Ozzard, Bonse, McAdam, Egan, Irving, Law, Castor and Bezbaron.

The chairman gave a satisfactory statement of the progress of the Society. The secretary read a communication from the British Institute of Preventive Medicine, asking for assistance towards the endowment of a central institution, after which the President delivered an interesting address on the Progress of Medicine during the present century. Sketching in an instructive manner the history of the growth and change of opinion with regard to the essential nature of pneumonia from the days of Cullen to the present time, and taking small pox as the type of specific disease, he dealt at greater length with the germ theory of disease, and paid an eloquent tribute to the services of Pasteur in this great and important field of scientific investigation. To Pasteur, he said, we owed the first practical idea of the production of disease by bacteria—an idea which in the hands of the distinguished writers who followed him had given us antiseptic surgery and all that had been rendered possible by its means. To this idea and its fructification was owing the conversion of maternity hospitals from places of entry into which placed the woman's life in imminent jeopardy into places whose salubrity equalled

were registered in Brighton, Leicester, Swansea and Huddersfield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 23·2 and 22·3 per 1000 in the preceding two weeks, further declined to 21·2 during the week ending March 18th, but exceeded by 1·3 per 1000 the mean rate during the same period in the thirty three large English towns. The rates in the eight Scotch towns ranged from 14·7 in Leith and 16·6 in Greenock to 23·5 in Glasgow and 27·5 in Dundee. The 597 deaths in these towns included 45 which were referred to measles, 6 to scarlet fever, 6 to diphtheria, 6 to whooping-cough, 5 to diarrhoea, 2 to small pox and 1 to "fever." In all, 71 deaths resulted from these principal zymotic diseases, against 91 and 95 in the preceding two weeks. These 71 deaths were equal to an annual rate of 2·5 per 1000, which exceeded by 0·4 the mean rate last week from the same diseases in the thirty three large English towns. The fatal cases of measles, which had been 53 and 49 in the preceding two weeks, further declined to 45 last week, of which 24 occurred in Glasgow, 11 in Dundee and 5 in Paisley. The deaths referred to diphtheria, which had declined in the preceding three weeks from 10 to 7, further fell to 6 last week, of which 5 were recorded in Glasgow. The 6 fatal cases of scarlet fever corresponded with the number in the previous week, and included 3 in Edinburgh and 3 in Leith. The deaths from whooping cough, which had been 15 and 17 in the preceding two weeks declined to 6 last week, of which 5 occurred in Glasgow, where the 2 fatal cases of small pox were also recorded. The deaths referred to diseases of the respiratory organs in these towns, which had been 171 and 142 in the preceding two weeks, further declined to 136 last week, and were 47 below the number recorded in the corresponding week of last year. The causes of 48, or more than 8·0 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN

The death rate in Dublin, which had been 27·7 and 25·2 per 1000 in the preceding two weeks, rose again to 26·0 during the week ending March 18th. During the past eleven weeks of the current quarter the death rate in the city has averaged 28·3 per 1000 the rate for the same period being 22·2 in London and 21·0 in Edinburgh. The 174 deaths in Dublin showed an increase of 5 upon the number in the preceding week, and included 4 which were referred to whooping cough, 3 to "fever," 2 to measles, 1 to scarlet fever 1 to diphtheria, 1 to diarrhoea, and not one to small pox. In all, 12 deaths resulted from these principal zymotic diseases, equal to an annual rate of 1·8 per 1000, the zymotic death rate during the same period being 2·3 in London and 1·6 in Edinburgh. The fatal cases of whooping-cough, which had been 5 and 1 in the preceding two weeks, rose again to 4 last week. The deaths referred to different forms of "fever," which had been 6 in each of the preceding two weeks, declined to 3 last week. The two fatal cases of measles exceeded the number recorded in any recent week. The 174 deaths registered in Dublin last week included 25 of infants under one year of age and 38 of persons aged upwards of sixty years, the deaths both of infants and of elderly persons considerably exceeded the numbers returned in the preceding week. Seven inquest cases and 6 deaths from violence were registered, and 63, or nearly a third, of the deaths occurred in public institutions. The causes of 6, or more than 3 per cent., of the deaths in the city last week were not certified.

CALCUTTA.

The Memorandum for the month of November last from the Health Officer Department Calcutta, is the first monthly report in which the vital statistics of the entire area of Calcutta are shown together, in accordance with the wishes of the Indian Government. The total number of births registered in Calcutta during November was 1294, giving an annual birth rate of 22·7 of the population. Of these 667 were males and 627 females. The total number of deaths (exclusive of still births) registered in Calcutta during November was 1868, against 1480 in the preceding month showing an annual death rate of 32·8, against 26·0 per 1000 of population. Of these 127 were from cholera, 232 from bowel complaints, 1 from small pox, 775 from fevers

28 from injuries, 79 from tetanus and 626 from all other causes. The proportion of male to female deaths was 148 to 100. In urban Calcutta the number of deaths was 1095 giving an annual ratio of 28·1 per 1000, of these deaths 80 were from cholera. In suburban Calcutta the number of deaths amounted to 772, giving an annual ratio of 43 per 1000. There were 47 deaths from cholera and 109 from bowel complaints.

THE SERVICES

MOVEMENTS IN THE MEDICAL STAFF

SURGEON CAPTAIN A. E. Morris will be transferred from Netley for general duty in the Southern district on the arrival there of Surgeon Lieutenant Colonel H. H. Stokes, A.M.S. Surgeon Captain W. R. D. Crooke has been appointed to the Coldstream Guards in place of Surgeon Captain J. F. Bateson. Surgeon Lieutenant Colonel Finlay, retired pay, has been appointed to Jersey, and Brigade-Surgeon Batho formerly at Jersey, to Guernsey. Surgeon Captains Burrows and Robinson have embarked for Egypt, and Surgeon-Captain Hickson for Malta. Surgeon Captain Geddes has been transferred to Devonport, Surgeon Captain Harris to Aldershot as Adjutant of the Medical Staff Corps and Surgeon-Lieutenant Read to Bristol. Surgeon Colonel Jameson has arrived in England from Egypt and taken over the duties of Professional Assistant to the Director General at headquarters in succession to Surgeon Major-General Reade, who retires.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon Captain Frederick Flood Moore to be Surgeon-Major (dated March 22nd, 1893)

INDIA AND THE INDIAN MEDICAL SERVICE.

The following appointments have been made—Surgeon-Major W. G. King M.B., to act as Superintendent, Lunatic Asylum, Madras during the employment of Surgeon Lieutenant-Colonel S. L. Dobie on other duty. Surgeon Major G. L. Walker M.D., is appointed to be Civil Surgeon, Ootacamund, in succession to Surgeon Major J. Maitland, M.D. Surgeon Major O. J. Bourke, A.M.S., in charge of Station Hospital, Kirkee, to the Medical Charge of Station Hospital, Purandhar, on expiration of Surgeon Captain H. J. Barnes', A.M.S., tour of duty there on March 23rd, 1893. Surgeon Lieutenant-Colonel T. C. H. Spencer, I.M.S. 7th Regiment Madras Infantry, to the Officiating Medical Charge of the Regiment. Surgeon Captain R. W. S. Lyons, M.D., to act, in addition to his own duties as Assistant Surgeon to the David Sassoon Hospital, Assistant to the Civil Surgeon, Poona, and Teacher of Surgery and Midwifery, Medical School, Poona, during the absence of Surgeon Captain W. H. Burke, M.B., on privilege leave. Surgeon Captain A. V. Anderson M.B., has been appointed to act as Deputy Sanitary Commissioner Central Registration district during the absence of Surgeon Major A. W. F. Street, D.S.O. The services of Surgeon Major F. F. MacCarte, M.B., B.Ch., have been placed at the disposal of the Government of India in the Department of Finance and Commerce. The services of Surgeon Captain J. C. Lamont, I.M.S., Bengal Establishment, are placed temporarily at the disposal of the Chief Commissioner of Assam. Surgeon Colonel P. S. Turnbull, I.M.S. having been appointed Surgeon General with the Government of Bombay, will proceed to Bombay to relieve Surgeon Major General J. Pinkerton, I.M.S. On his departure from Kurrachee, the Military duties of his office will, as a temporary measure, be carried on by Surgeon Lieutenant-Colonel W. D. Wilson, A.M.S. Surgeon Captain J. C. Culling, A.M.S. on return from sick leave in England, is posted to general duty, Bombay district. Brigade-Surgeon-Lieutenant Colonel A. S. Lethbridge, C.S.I., M.D., General Superintendent of Operations for the Suppression of Thugs and Dakaiti, has been nominated to be an Additional Member of the Council of the Governor General for the purpose of making Laws and Regulations. The undermentioned officer passed the examination in the Purvatya (Colloquial) language at Bakhlo on Jan. 20th 1893. Surgeon Lieutenant Colonel A. S. Reid, I.M.S. Leave has been granted to Surgeon Lieutenant Colonel J. D. Gunning, A.M.S. for six months or

disinfected with perchloride of mercury and pumped out before the ship entered dock. Commenting on the precautions for the future, Dr Armstrong writes "The safety of the entire population is jeopardised by every deficiency in preparation on the part of a port sanitary authority short of absolute perfection, and of every act of oversight or neglect, however small, on the part of any responsible port officer of health or inspector in performance of special cholera duties. The machinery and work for the prevention of cholera must therefore of necessity be as efficient and thorough in one port, irrespective of its size or the amount of its trade, as in another, otherwise the services of all the rest may be wrecked." In discussing our port defences, Dr Armstrong gives it as his opinion that "the best equipment of the kind in this country bears no comparison for completeness with that of the Louisiana State Board of Health at New Orleans."

Teignmouth Urban Sanitary District—The general death rate for the Teignmouth portion of this district during 1892 was 20.85, that for Shaldon 17.90. An analysis of the large number of deaths recorded in Teignmouth shows that the incidence during the first quarter of the year was much in excess of that in the remaining three quarters, and this fact seems to point to influenza as being the chief factor in producing this excess. The deaths from cancer were no less than 50 per cent. above the average, and this Dr Piggott is inclined to attribute, in great part at least, to the large proportion of aged persons amongst the inhabitants. The zymotic death rate was 0.44 per 1000. There were 19 cases of enteric fever notified in the district, 10 in Teignmouth, with a population of 6886, and 9 in Shaldon with one of only 1285. In Shaldon there are a large number of shallow wells, and we hope before long to hear of these being closed. The Notification Act is said to work very satisfactorily in the district, and the proceedings which follow upon notification seem to be very complete. Dr Piggott makes (what he calls) his "perennial complaint" as to the existing hospital accommodation. It seems that the only provision for the urban and port districts is of such a character "that the medical practitioners of the district have unanimously pledged themselves not to advise their patients to avail themselves of the indifferent accommodation provided." A local authority which, in face of an expression of an opinion such as this, fails to make proper provision must certainly be regarded as having neglected to fulfil one of the most important duties incumbent upon it. Furthermore it seems that the authority in question has recently deputed the officer who acts as an inspector of nuisances for both the port and urban districts to perform the duties of clerk of the works to a new sea wall in the course of erection. This is indeed taking a novel view of an inspector's functions, and we are glad to see that Dr Piggott speaks with no uncertain note as to the impropriety of the proceeding. As he states in his report, at a time such as this, when in view of the advent of cholera the inspector's unremitting attention should be given to improving the sanitary condition of the district, the authority has by its action practically decided to relax its efforts. A very interesting account of a recent limited outbreak of diarrhoea in the district is given in the report, and we hope to be able to give a short notice of it in a future issue.

Poole Urban and Port Sanitary Districts—The estimated population of this district in 1892 was 15,888 and it yielded during the year a general death rate of 20.70 and a zymotic death rate of 2.58 per 1000. The infantile mortality amounted to no less than 171 per 1000 births. An extensive and severe epidemic of measles occurred in the autumn which was accountable for 31 deaths. We notice that out of this number only 2 were in the cases of children under one year of age, so that this epidemic could not have greatly affected directly the high infantile mortality. Influenza caused 26 deaths. The Infectious Diseases Notification Act has just been adopted, and Dr Lawton again strongly urges his authority to revise the By-laws, which, it seems, are quite out of date. The report does not state what steps were taken with reference to the three samples of well water which were submitted for analysis and found to be impure. We are told that in five instances the disinfection of premises was carried out, but this seems a very small proportion of the large number of infectious cases which occurred. Plans for a new fever hospital were approved four years ago, but there the matter appears to rest. Acting as medical officer of health to the Poole sanitary authority, Dr Lawton very properly ordered the bilges and water casks of ten vessels which had come from a cholera infected littoral to be cleaned out previously to the ships being berthed. Some 77 inspections of vessels were

made by the medical officer of health and 157 by the assistant sanitary inspector. It would have been of interest had Dr Lawton given a short account of the port sanitary authority's equipment.

Sutton Coldfield Urban Sanitary District—This district is one of those in which measles has been added to the list of notifiable diseases, and, as Dr Bostock Hill remarks, the addition must be regarded rather in the light of an experiment. He is of opinion that the measure in a scattered district, largely rural, is a desirable one. There were during the year under review (1892) no less than 253 cases of measles notified amongst a population estimated at 8950. Of those attacked, as many as 80 per cent. were over five years of age, and, as Dr Whitelegge has shown that 90 per cent. of the mortality from measles occur in cases under five, this fact may to a large extent account for the death rate of the 253 cases being $\frac{1}{10}$. This high age incidence is explained by Dr Hill on the grounds that, the disease being notifiable, precautions are taken to prevent its spread, and as a result a somewhat large proportion of unprotected persons has accumulated. If the deduction can be justified by the facts, it is obviously a strong argument in favour of notification. There are, however, many complicated points involved in this question. The zymotic death rate of the district for 1892 was the lowest yet recorded, being 0.22 per 1000. The general death rate was but 13.4. Influenza, which prevailed in the district during 1891, seems then to have claimed all its victims, as it was practically absent during 1892. The infantile mortality was 130 per 1000 births, the chief cause of death being respiratory diseases and premature births. Great improvements appear to have taken place in the ventilation and flushing of sewers during the year.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In thirty three of the largest English towns 6488 births and 3931 deaths were registered during the week ending March 18th. The annual rate of mortality in these towns, which had been 20.8 and 19.6 per 1000 in the preceding two weeks, rose again last week to 19.9. In London the rate was 19.1 per 1000, whilst it averaged 20.4 in the thirty two provincial towns. The lowest rates in these towns were 13.9 in Derby, 14.4 in Croydon, 15.3 in Leicester and 15.8 in West Ham, the highest rates were 23.7 in Preston, 25.0 in Norwich, 25.2 in Liverpool, 25.5 in Manchester, and 29.3 in Bolton. The 3931 deaths included 406 which were referred to the principal zymotic diseases, against 398 and 350 in the preceding two weeks, of these, 102 resulted from whooping cough, 91 from diphtheria, 85 from measles, 52 from scarlet fever, 45 from diarrhoea, 23 from "fever" (principally enteric) and 8 from small pox. No fatal case of any of these diseases occurred last week in Wolverhampton, in the other towns they caused the lowest death rates in Brighton, Derby, Halifax and Plymouth, and the highest rates in Preston, Cardiff, Manchester, Bolton and Croydon. The greatest mortality from measles occurred in Huddersfield, Hull, Leeds, Croydon and Bolton, from scarlet fever in Gateshead and Bolton, and from whooping cough in Burnley, Preston and Birmingham. The mortality from "fever" showed no marked excess in any of the large towns. The 91 deaths from diphtheria included 65 in London, 6 in Manchester, 5 in Cardiff and 3 in Birmingham. Three fatal cases of small pox were registered in London, 2 in West Ham and 1 each in Bristol, Liverpool and Oldham, 207 cases of this disease were under treatment in the Metropolitan Asylum Hospitals and 8 in the Highgate Small pox Hospital on Saturday last. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2065, against 2293, 2210 and 2147 on the preceding three Saturdays. 180 new cases were admitted during the week, against 208 and 195 in the previous two weeks. The deaths referred to diseases of the respiratory organs in London, which had declined from 427 to 351 in the preceding three weeks, further fell to 338 last week, and were as many as 208 below the corrected average. The causes of 62, or 1.6 per cent., of the deaths in the thirty three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Nottingham, Sunderland, Newcastle upon Tyne and in eight other smaller towns, the largest proportions of uncertified deaths

last week) is present in the urine during a course of years without other renal symptoms. The term "albuminorrhœa" has been proposed to denote these cases. They are, I believe, notwithstanding the statements recently made, not common, and their comparative rarity has hindered the growth of accurate knowledge concerning them. When the cases belonging to other classes have been sifted out it will be found that few observers are familiar with more than one or two of the class alluded to, and hence their impressions are necessarily derived from too small a field of observation. Here the record and careful analysis of a number of cases could hardly fail to lead to conclusions of value. In such cases we need above all the guidance of necropsies, and these are very seldom obtained. It has appeared to me not improbable that mechanical conditions, sometimes congenital, affecting one kidney or part of one kidney, may account for some of these cases. Mr Henry Lee¹ once made a very suggestive post-mortem examination of the body of a man who had long had albuminuria without apparent cause. He found intussusception of one ureter. Another class of cases has been well described by Dr Clement Dukes—temporary albuminuria, with headache, syncope and high vascular tension occurring in the period of youth—but these I think are on the border line of the present inquiry. There would seem to be inflammatory hyperæmia of the kidney in such cases. A further considerable class of cases which is of much importance to the life assurance examiner is that of temporary albuminuria from accidental causes such as shock to the surface in bathing, severe muscular exercise or ingestion of albuminous food—typical "physiological albuminuria," to use the phrase of Sir W. Roberts. Yet another class might be added—spurious albuminuria, in which the albumen is derived from other parts of the urinary system than the kidney, catarrh of the renal pelvis or ureter or of the bladder produces such a result. Slight gleet in young men vitiates our tests in not a few life assurance cases, and, lastly, as hinted by Dr Routh, leucorrhœa is, in women, an exceedingly common cause of spurious albuminuria. Dr Vagure and others have laid much stress upon the connection between albuminuria and conditions of vascular tension and have advanced the view that, in most of the cases alluded to, the causes operated by means of alterations of the blood tension. There can be no doubt that the tension of the vessels is a factor of great moment in many of these cases and that there is a true albuminuria of low tension² as well as "albuminuria of high tension." But added experience has convinced me that there are other factors at work in many cases and that vascular tension will not explain nearly all the instances met with.

One word with regard to statistics of albuminuria. Dr Lauder Brunton is reported to have drawn, at the meeting of the Medical Society, a comparison between the proportion of albuminuria cases found amongst healthy men by himself in England (2 per cent) and by observers in America (9 per cent) respectively and to have inferred from these statistics the greater prevalence of albuminuria in the latter country. But are not such statistics absolutely useless for comparison, since they depend entirely on the methods of the observer? I have myself stated elsewhere² the results of the examination of 282 presumably healthy adults for life assurance, amongst whom I found eighty six, or 30 per cent., to show traces of albumen in their urine. No two observers will exactly coincide in their appreciation of a "trace" of albumen—that which one disregards, another, with finer methods, will enter as albuminoids. What then should be the scope of the inquiry which you, Sirs, have proposed? I take its subject to be 'albuminuria unattended by other evidence of kidney disease.' Records of cases especially such as cover a series of years, should be collected. To what sources can we look for such records? I think with Dr Tyson that it would be very difficult to make much use of the records of insurance offices. Their medical reports are commonly too brief for this purpose, and to be of use the observations almost need to be made with this special end in view. It is from the case-books of medical men, themselves interested in this subject, that material must be obtained—the notes of the cases of persons in the middle and upper ranks of society who have been watched for years by their physicians. The records of necropsies should especially be coveted. What should be our aims in collecting and analysing these records? To place the

cases in clinical groups so far as these can be defined. To do this one has to take account of all associated or pre-existing conditions, especially of vascular tension and blood conditions, and of inherited or associated diathesis. It would not be difficult to sketch out a schedule for the description of these cases. Cyclic albuminuria is so common that a few well chosen cases should suffice to represent this class, those in particular which extend over a good many years. Cases of permanent albuminuria without apparent cause should be stated in more fulness.

Lastly, there are two features in the records which would require especial attention. One is the kind of albumen present—whether globulin, propeptone or any other modification formed a part or the whole of it, where possible the tests employed should be stated. The other feature is the after history—whether progressive renal disorder eventually supervened. Conducted on some such lines as these, I cannot but think that the inquiry would prove of much service, and that it might supply us with solid groundwork for the prognosis of these difficult cases.

I am, Sirs, yours truly,

Finsbury-square March 11th, 1893.

R. HINGSTON FOX.

THE TREATMENT OF HÆMORRHOIDS AND PROLAPSE OF THE RECTUM BY CLAMP AND CAUTERY

To the Editors of THE LANCET

SIRS.—Mr Henry Smith's article, published in THE LANCET of March 4th on the above subject, might lead one to imagine that the operation by the clamp and cautery possessed every possible advantage. With all due deference to such an authority I think it only right to recall to the minds of the readers of THE LANCET the disadvantages of this mode of treatment. It is at least four times as fatal as any other method of removing hæmorrhoids. The pain is as great as, if not greater than, that proceeding from other modes¹ for one should be well aware that in the rectum as in other parts of the body, a burn is one of the most painful of all injuries, similarly, contraction another usual sequela of burning, is by no means absent after the clamp and cautery procedure. Again, secondary hæmorrhage is likely to occur on the separation of the sloughs caused by burning. No doubt this operation may be suitable in selected instances, but to apply it to all cases of hæmorrhoids runs too near to the Procrustes' bed method of procedure to deserve much commendation at this period of surgery. It has been my lot to operate upon cases of hæmorrhoids in which the clamp and cautery had been used several years before. I treated them by crushing or by ligature, and was assured by the patients that the pain and after trouble were far less than they had suffered after the burning operation. Tetanus, pyæmia, secondary hæmorrhage and so forth are almost unknown now, and in his reference to them Mr Smith must be thinking of the era when the clamp and cautery were extensively used.

I am, Sirs, yours truly,

HERBERT ALLINGHAM, F.R.C.S. Eng

Grosvenor square W March 22nd, 1893.

"DENTAL ADVERTISING"

To the Editors of THE LANCET

SIRS.—Your correspondent 'A Looker On' thinks the agitation against dental advertising injudicious because it cannot possibly bear fruit. I hope it will bear good fruit. It is already awakening a great many to the disgrace of it and the degrading influence it has upon the whole dental profession. I trust this feeling will penetrate into the medical profession generally and through it into the public mind, and a man who makes a trade of an honourable profession—who seeks to emulate the proprietors of a soap or a mustard—will be scouted by all. It is true the General Medical Council admitted many advertisers to the Dentists' Register, but by so doing the General Medical Council did not make itself a party to advertising or sanction any vested interest in it, as your correspondent suggests. On the contrary, the General Medical Council have now a power over them they did not before possess. The Master of the Rolls and Lord Justices Lopes and Fry sitting as a court of appeal in the Partridge v. General Medical Council case, held that advertising was disgraceful conduct in a professional respect, and 'if there were evidence of it the decision of the Council is final and

¹ THE LANCET, March 5th, 1890.
² Albuminuria in relation to Life Assurance, a Paper Introductory to a Special Discussion. Transactions of the Hunterian Society 1891-92. See also THE LANCET, Dec. 12th, 1891.

medical certificate and to Surgeon Captain R. C. Thacker, A M S., to England for five months on private affairs. The undermentioned officers are granted furlough out of India: Surgeon Lieutenant-Colonel W. F. Johnson, M D., I M S., Queen's Own Sappers and Miners (u p a) for six months, and Surgeon Major E. S. Brander, Civil Surgeon Etawah on private affairs for eighteen months (from March 25th, 1893).

NAVAL MEDICAL SERVICE.

The following appointments are announced—Staff Surgeons: Everard H. Saunders to the *Colossus* and Alexander M. French to the *Boscawen* (dated March 22nd, 1893). Surgeons: Charles F. Warren to the *Seafarer*, Edward M. Dobinson to the *Martin*, Edgar F. Mortimer to the *Nautilus*, William E. Marshall to the *Pilot*, and Henry B. Hall to the *Liberty*. Surgeon and Agent: James C. Harkin, M B., to Teelin and Malinmore (dated March 16th, 1893).

YEOMANRY CAVALRY

Yorkshire Dragoons: Percy Barnard Mackay, Gent., to be Surgeon Lieutenant (dated March 18th, 1893).

VOLUNTEER CORPS.

Rifle: 1st Volunteer Battalion, the Lincolnshire Regiment: Surgeon Captain H. Wright to be Surgeon Major (dated March 18th, 1893).—3rd Volunteer Battalion, the Lancashire Fusiliers: John Furvill Smith, Gent., to be Surgeon Lieutenant (dated March 18th, 1893).—1st Nottinghamshire (Robin Hood): William John Sprott, M D., to be Surgeon-Lieutenant (dated March 18th, 1893).—2nd Volunteer Battalion, the Duke of Edinburgh's (Wiltshire Regiment): Surgeon Lieutenant F. F. Jones resigns his commission (dated March 18th, 1893).

THE VOLUNTEER OFFICERS' DECORATION

A further list of those officers upon whom this decoration has been conferred appears in the *London Gazette* of March 17th, 1893. Amongst them are the following members of the medical profession—*North Western District*:—*Artillery*: 1st Cheshire and Carnarvonshire, Surgeon Major William Bell.—*Rifle*: 1st Volunteer Battalion, the Prince of Wales's Volunteers (South Lancashire Regiment), Surgeon and Honorary Surgeon Major John Webb Watkins, retired.—*Eastern District*:—*Artillery*: 1st Essex (Eastern Division, Royal Artillery), Surgeon Major (ranking as Lieutenant Colonel) Rea Corbet, retired, 4th (Cambridge University) Volunteer Battalion, the Suffolk Regiment, Surgeon Major (ranking as Lieutenant-Colonel) Bushell Annington, retired.—*Home District*:—*Rifle*: 2nd Volunteer Battalion, the Duke of Cambridge's Own (Middlesex Regiment): Surgeon Lieutenant-Colonel Charles Arthur Patten, 1st Tower Hamlets (the Tower Hamlets Rifle Volunteer Brigade), Surgeon and Honorary Surgeon Major Thomas Gray, M D., retired.

THE SURGICAL CONGRESS AT PARIS

The British Army will be professionally represented at the Surgical Congress which will open at Paris on April 3rd by Brigade-Surgeon Lieutenant-Colonel Stevenson, Professor of Military Surgery at the Army Medical School, Netley.

A MEDICAL HERO

According to our contemporary, the *Indian Medical Record*, Surgeon Major Lloyd appears to have distinguished himself in the late attack on Sima by the Kachins. The garrison consisted of 275 men of the Military Police battalion. The Kachins who had taken up a strong position, opened fire and attacked the stockade. Surgeon Major Lloyd, at the request of the officer in command (Captain Morton), took charge of the upper angle. The latter officer was fatally wounded in the abdomen and Surgeon Major Lloyd advanced to his rescue. There was a heavy fire from a large force of the enemy, but all the Kachins were driven from the immediate vicinity of the stockade by Surgeon Major Lloyd and a strong party. This officer had previously served on the West Coast of Africa and had also seen much fighting in Boerland. He is said to be an excellent horseman and has the Zulu medal for South Africa.

THE WOUNDS CAUSED BY THE MANNLICHER RIFLE

According to the reports which have appeared in several papers the wounds discovered in the person of a soldier accidentally killed in the vicinity of the Vienna Arsenal by a bullet from a Mannlicher rifle are said to have thrown a new light on the effects produced by that weapon. A post mortem examination of the body showed that the bullet in this instance had acted almost as if it were an explosive in the

extensive nature of the injuries it had inflicted. But neither the exact nature of the injuries nor the structures injured are stated. Moreover, the projectile itself, owing to some flaw in its manufacture, was quite different to a small bore bullet. The steel covering had broken off from its leaden core, and the two portions of the bullet are stated to have made separate and independent channels, which together formed an absolutely fatal wound, and the rifle had been fired at a very short range, when, according to the observations of some experimenters, these bullets seem to act almost as explosives. The results of experiments with small bore bullets fired from rifles of this nature vary according to differences in the structure, strength and resistant powers of the parts struck, and, it is alleged by some, according to the ranges also at which the bullets are fired. From 50 to 200 yards the effect is said by some observers to be pulverizing and destructive. According to the observations of a Chilean officer, who published as his graduation thesis a study of the wounds inflicted by the Mannlicher bullet, when the shaft of a long bone is hit at a short distance, the effects may be described as explosive. Surgeon Captain Perry Marsh, as the result of his collection of the reports of cases of wounds inflicted with the Lee Mitford missile at various ranges—from 3 yards to 3000—says, however, that there is no evidence of any extensive disorganisation of the parts unless considerable resistance had been offered to the passage of the missile by a large compact bone. A projectile moving with high velocity might give rise to much disruptive violence at the point of impact with a resisting structure, and it is probable that a bullet projected with high initial velocity from the muzzle of a Mannlicher rifle does not at once acquire its steady rotatory drilling motion, so that a shattering effect might take place at short ranges which would not ensue at longer ranges.

Correspondence.

"Audi alteram partem."

THE PROGNOSIS OF ALBUMINURIA.

To the Editors of THE LANCET

SIRS.—The recent discussion on Dr Ralfe's paper before the Medical Society and the leading article of THE LANCET of March 4th have drawn fresh attention to this vexed question, one which comes every week before the medical officers of life assurance companies and often enough before practitioners in every walk of medicine. It cannot be denied that medical opinion on the prognosis of albuminuria is in an unsettled condition, and I write to support your suggestion that the Medical Society should appoint a committee to consider and report upon it. In order, however, to do this usefully one must entertain clear ideas of the objects of the inquiry and of its limits. The whole subject of albuminuria in general is far too wide for handling in this manner. It is, in the first place, albuminuria unattended by other signs of kidney disease that has to be considered. When the kidney is affected by inflammatory or degenerative change, whether acute or chronic, temporary or permanent, such change being indicated by other signs besides the presence of albumen in the urine, the condition is outside the scope of inquiry. Medical science is already in possession of sufficient facts on these heads to form the basis of definite conclusions. It is otherwise with cases of uncomplicated and unexplained albuminuria. Facts, well analysed and digested, are here greatly needed. There are probably many conditions underlying albuminuria in these cases. Certain classes of cases have been pretty clearly defined already, although I cannot follow Dr Ralfe in regarding the whole group of "functional albuminuria" as well defined. Dr Pavy, Dr Broadbent and others have described the condition known variously as cyclic, postural, or intermittent albuminuria, so that it is quite easy of recognition in typical cases, both in the mode of occurrence of the albumen and in the circulatory conditions which attend it. And typical cases are not at all uncommon in practice. A similar definition is needed for other forms of albuminuria, to be attained by the grouping together of cases which have clinical features in common. The class of cases which seem especially to need inquiry consists of those in which albumen in a measurable quantity (unlike the "very small trace" of Professor Gairdner's case

beneficial I may here say that from the results I have obtained in early phthisis from calomel vapour inhalations I believe they will yet be recognised as a most valuable aid in the treatment of this formidable disease. I should be very pleased if some of your readers who have an opportunity of observing the diseases that occur amongst those who work in mercury would say in what proportion phthisis occurs amongst that class of operatives, also if they find an immunity from typhoid fever amongst them.

I am, Sirs, yours truly,
Wm. BENNETT, M D Durh
Waterloo-road, Manchester March 14th, 1893

"ISOLATION" & "INUCTION"

To the Editors of THE LANCET

SIRs.—Mr Curgenvin has been misinformed as to the action of the Enfield Local Board. He says that "in 1891 the Enfield Board proposed to build a hospital. They were advised to try the inunction method of disinfection first. They did so, and the hospital is not yet built." In December, 1891, a temporary hospital was not only proposed to be built but actually erected, and some 120 cases have been admitted up to the present time, although eucalyptus has been freely distributed at infected houses, and has been applied thoroughly to the patients admitted. The local board was never advised to try the inunction method first, and the delay in the erection of the permanent hospital on another site, which has been purchased, has had nothing whatever to do with the inunction of eucalyptus. The plans are now prepared and a loan is about to be applied for to build. I have no doubt that eucalyptus is a disinfectant, but I am equally sure that it cannot be relied on in place of isolation.

I am, Sirs, yours truly,
Enfield March 20th 1893 J J RIDGE.

LIVERPOOL

(FROM OUR OWN CORRESPONDENT)

The Assizes

IN his charge to the grand jury at the opening of the assizes here on the 14th inst. Mr Justice Wills laid great stress on the value of the medical evidence in two of the three cases of murder. In one it would go very far to reduce the crime to manslaughter, in the second it went far to show that the crime was really manslaughter and not murder, whilst in the third it would go very far to prove or disprove the statement made by the prisoner. The mate of a ship was tried for stabbing the captain whilst the vessel was on her voyage. There was no provocation whatever, the captain having merely desired the prisoner to keep on deck during his watch. The judge dwelt upon the danger of using a knife under such circumstances, far away from medical aid. It was aggravated by the fact that had the captain died the prisoner would, under ordinary circumstances, have taken the command. He sentenced the prisoner to seven years penal servitude.

Port Sanitary Work during the Year 1892

The report of the medical officer of health with reference to the work done last year to safeguard the health of the port against the importation of disease by vessels arriving in the river has been printed and is a very interesting document. Very effective measures were taken to prevent the entry of any cases of cholera during its prevalence in Hamburg. Two additional medical inspectors were temporarily appointed, in accordance with the order of the Local Government Board of Sept 6th, to visit all ships arriving in the Mersey from Hamburg and other cholera infected ports. These duties were performed by Drs Roberts and Imbach until the necessity for them ceased to arise. The number of vessels inspected during the entire year was 3867, whereof 2921 were British. The number found to be in good or fair condition was 3399, whilst 468 were defective in regard to sanitary requirements, the principal offenders as regards cleanliness being as in previous years, steamers carrying cattle. With the exception of these the condition of the British ships is reported to have been very satisfactory. Vessels of other nationalities have improved, especially the Dutch. Twenty five Spanish ships were fumigated and cleansed and certificates given by the medical officer, in accordance with the requirements of the

Spanish Government. The number of emigrants passing through Liverpool during the year was 200,786, being 5632 less than in the previous twelve months. This reduction is more than accounted for by the great falling off in the number of passengers to the United States, owing to the cholera scare, from 170,210 in 1891 to 157,212 in 1892. The report contains particulars in diary form of every case of sickness on board ship and amongst emigrants on arrival in Liverpool, with details of treatment.

The Resident Medical Officers of the Liverpool Workhouse and their Accommodation

Drs. Robertson and Alexander, the visiting physician and surgeon to the Liverpool Workhouse, having noticed the frequent breakdown in the health of their resident medical officers, have called the attention of the workhouse committee to the insanitary condition of the quarters allotted to the resident staff. These are in the centre of the building close to the wards. The chairman and another member of the committee admitted the existence of the insanitary condition and a subcommittee was appointed to inquire into the subject and to report to the committee.

The Health of Liverpool

At the last meeting of the health committee, held on the 16th inst. it was stated that the deaths for the week were 83 below the average of the past ten years. Under the Infectious Disease Notification Act were reported 40 cases of scarlet fever, 19 removed to hospital, 15 of 'fever,' 7 removed to hospital, 2 of diphtheria, not removed, 5 of small pox, all removed to hospital, and other cases. Patients under treatment in hospital for the week ending the 16th inst were—typhus fever, 9, typhoid fever 36, scarlet fever, 116, diphtheria 1, small pox, 15, chicken pox, 5. So far small pox has not made any serious advance. The weather has been very variable.

March 20th.

NORTHERN COUNTIES NOTES

(FROM OUR OWN CORRESPONDENT)

Newcastle Surgical Aid Society

THE report submitted to the annual meeting of the Newcastle Surgical Aid Society shows a falling off in subscriptions during the past year. It is the same all round with our charitable institutions, and this is to be accounted for by trade depression.

Small-pox in the North

One still hears of cases here and there over the northern counties. Cases are reported from Hexham, Durham City, Jarrow, &c. It is the same story, the disease is disseminated by vagrants and tramps, and there seems to be a good deal of difficulty in getting this class isolated and so stamping out the disease.

Cumberland and Westmoreland Convalescent Institution

The annual meeting of the Cumberland and Westmoreland Convalescent Institution was held at Carlisle last week, when the Bishop of Carlisle presided. It was stated that 623 patients had been admitted. Of these 239 were from Carlisle, 207 from other parts of Cumberland, 62 from Carlisle Infirmary, 53 from Westmoreland, 33 from Northumberland and 13 from other parts of England, with 16 from Scotland. The financial statement was on the whole more satisfactory than is usual with similar institutions as regards the past year.

Sunderland Provident Dispensary

The Sunderland Provident Dispensary cannot be classed with the so-called "Provident" ventures started to provide for its originators. It was shown in the last report that nearly 22,000 prescriptions had been dispensed, over £500 had been paid to the medical staff, and the year closed with a good balance in hand.

Death of a Newcastle Certenarian

Mrs Kate O'Hara died at Newcastle last week (in a district not distinguished for its sanitary perfections) in her 106th year. It appears that this is a genuine case as she was returned as 103 in the last Census. She was also entertained by the Mayor at that time.

Death of Dr Candlish, late of Alnwick

The news of the death of Dr Candlish, late of Alnwick was received with great regret. Dr Candlish died at Ayr last week, to which place he retired about two years ago after

conclusive They are the sole judges "1 Dentists can appeal to the courts it may be, so can the medical profession But the courts do not approve of barristers or solicitors advertising, and the courts would like to see "the dental profession in the same high position as other medical men "2 The Incorporated Law Society has converted the legal profession into an honourable condition It is for the General Medical Council to take the dental in hand and assist us, as it has been doing lately, to weed out the advertisers

I am, Sirs, yours truly,

Nottingham, March 12th, 1893

HENRY BLANDY

"HOW UNION APPOINTMENTS ARE MADE"

To the Editors of THE LANCET

SIRS,—“M R C P” complains that union appointments are generally given to the man who buys the practice, and I venture to think ninety nine men out of every hundred would say, “and rightly so too” With your permission, I will ask “M R C P” this question Suppose, for argument's sake, he buys a village practice and I obtain the union appointment which had always belonged to that practice and worth, say, from £50 to £60 a year, and the work scattered over six or seven or more parishes, could I live and keep a horse on my appointment? If not, what follows? I must, to obtain the merest bread and cheese existence, be constantly poaching on the practice he has bought. What it may be in very large towns or cities I am not prepared to say, but in a village practice it would be impossible to do without the appointments such as union and clubs, and badly as we are remunerated for this work, they help to form an important total The amounts, though small, are paid regularly, and we know when to expect them, which is not the case with private patients Under these circumstances an opposition doctor in a village practice would be not only a farce, but the profession must in various ways be degraded thereby, and one of the two must inevitably come to grief. How would “M R C P,” after purchasing the practice, like to be the victim? Besides, I think it is mean and unprofessional in any man to oppose another after he has invested his small capital—perhaps all he has—in one of these practices From “M R C P's” style of argument it seems to me that the election was right when he was elected, but wrong when he was not

I am, Sirs, yours faithfully

March 21st, 1893.

M R C S Eng &c

CANCER PLASTERS

To the Editors of THE LANCET

SIRS,—An inquest was lately held at Chester 10 Street which throws a strong light on the unsatisfactory state of the existing laws with regard to “quacks” A woman aged fifty, in spite of medical advice, went to a “cancer curer,” living close to Durham, who for a consideration of 15s for the first visit and 5s for each subsequent one applied plasters to a scirrhus of the breast about the size of a “small hen's egg” The “treatment” was continued at the rate of a plaster a week from the end of September, 1892, till death on Feb 13th, 1893 The surgeon, who had originally advised operation, stated at the inquest that (although all operative treatment was refused and the persistent use of the plasters against his urgent advice made him decline to attend the case further) he thought it probable that the woman would have lived for about another two years had not death been “accelerated by the application of caustic plasters” Pressed by the coroner as to the composition of the plasters, with considerable hesitation the woman stated that they were made of “the herbs wood betony, crow's toe and yarrow,” dried, powdered, mixed with white of egg and spread upon bladder skin She swore that no corrosive or other drug was used. After an hour's deliberation the jury returned a verdict “that deceased died from a cancer in her left breast,” declining to express any further opinion After the medical evidence one must regard such a verdict with great dissatisfaction Within the last few months three cases of such treatment have come under my notice, two of them the result of the same woman's handiwork.

Case 1—A domestic servant aged twenty nine applied to the above woman for what from the history was a small

warty growth on the dorsum of the right hand, about the centre of the metacarpal bone of the little finger She was told that it was a “shell cancer,” and that after a series of plasters it would drop off. Some ivy plasters were applied. When I saw her there was a large, foul, dark coloured oval slough over the above position, filling up an ulcer measuring one inch and a half by three-quarters of an inch. The sheaths of the tendons were eaten through, the metacarpal bone was eroded and the metacarpo phalangeal joint opened up, necessitating amputation of the little finger with a large portion of its metacarpal The wound rapidly healed and she is now at her duties The ulcer showed every sign of a corrosive action, and neither slough nor portions of skin removed showed any signs of malignant growth

Case 2—A joiner aged fifty nine presented himself with epithelioma of the lip and the angle of the mouth Five years ago he burnt his lip with a clay pipe, which left a small sore, which grew harder and never healed For the last ten months he had been under the same woman and had numbers of plasters The growth extended from almost the centre of the lower lip backwards to the left angle of the mouth, it then ran backwards for about one inch into the cheek, where there was a mass of epithelioma the size of half a walnut. Its removal (there were no enlarged glands) necessitated a very extensive loss of tissue, resulting in considerable deformity The cheek healed well, but when seen in January there were signs of recurrence on the lip

Case 3—A miner aged fifty about three years ago noticed a “marble” under the skin of the left thigh just above the patella. About two months before being seen he noticed that the lump was growing rapidly He consulted a man who professed to cure cancers, and who gave him a bottle of liniment to use and “punched” the tumour to try and “burst it.” Fortunately he did not succeed, for an encapsuled sarcoma, hemorrhagic, the size of a child's head, was removed, together with a large portion of skin implicated from just above the left knee The tumour had no deep connections, and the large raw surface left after so large a removal of skin slowly granulated up I have no doubt, from the appearance presented by the first two cases, that the plasters contained some powerful corrosive The nature of the herbs mentioned I do not know I think if all such cases were reported it might lead to some more stringent regulations being adopted

I am, Sirs, yours truly,

SELBY W PLUMMER, M B, B S

"SOME REMARKS ON THE PATHOLOGY AND TREATMENT OF TYPHOID FEVER"

To the Editors of THE LANCET

SIRS,—It was with considerable interest and pleasure that I read Dr Latham's remarks on the pathology and treatment of typhoid fever During the past seventeen years I have used calomel in the treatment of every case of the disease that came under my care, and always with the same results. I found it to lower the temperature, clean the tongue and brighten the patient, and in a large number of cases occurring in healthy subjects, and recognised early, the treatment was followed by a complete abortion of the disease. Being a general practitioner, the cases I have treated came early under my observation—that is, within the first ten days—consequently the mischief had not taken deep hold of the glandular structures of the bowel Calomel may not possibly have acted so impressively had this been otherwise. It is obvious that the main influence of the drug is in its germicidal and antiseptic properties Let I have been much impressed with the idea that much of its beneficial influence rests on the effect it has in relieving portal congestion, which is always present, producing a condition of turgescence in the immediate neighbourhood of the glandular mischief that much intensifies the disease. I have also observed that after the first few doses of calomel my patients passed much larger quantities of urine, which, no doubt, relieved the system of poisonous results I have never ventured to give larger doses than two grains, generally one grain and a half, three times daily, either alone or combined with compound ipecacuanha powder or opium, according to the frequency of the purgation My fear of larger quantities has rested on a dread of increasing the peristaltic action of the bowel, thus preventing that rest which I recognise as necessary wherever inflammation is present. I have also found the counter irritant effect of a large mustard plaster over the abdomen on first recognising the disease as very

1 See report in the Journal of the British Dental Association, vol xiii, p 225 April, 1892

2 Master of the Rolls Ibid.

natural ice consumed in Paris. The *Médecine Moderne* informs its readers that a sewer opens at the top of that sheet of water and that, besides, it is fed by an artificial stream, which, rising in the plateau of Gravelle, crosses a large part of the Vincennes wood. A visit to that wood on a fine Sunday will easily enable the observant sanitarian to judge of the manner in which the waters of this artificial river are adulterated by the numerous holiday makers strolling on its banks. Until provisions are made by the authorities to safeguard the purity of the natural product I should strongly recommend visitors to this city who indulge in the consumption of ice to insist upon being supplied with that manufactured artificially by the companies above mentioned.

The Petroleum Treatment of Diphtheria

In the third number of the *Normandie Médicale* Dr Flahaut relates the history of an epidemic of diphtheria that occurred at La Neuville—Champ-d'Oisel—in 1891-92, seventy persons being attacked. In the first and earlier series of cases (thirty) reported the usual topical treatment (carbolic acid, sublimate, salicylic acid &c.) was followed, with the result that nine out of the thirty patients died. For the remaining forty, local applications of petroleum were employed, all the cases recovering. From the day on which this new treatment was instituted the mortality became suddenly nil. M. Flahaut says—"I commenced this mode of treatment on a little girl whose fauces, tonsils and soft palate were covered with thick false membranes. From the very first applications of the petroleum the membranes were seen to whiten, retract and almost dissolve under the brush. The same evening she breathed more easily and expelled some membranous exudations. Five days later the child was, if not absolutely cured, out of danger, and complete recovery was only a question of time. From that time forth I employed petroleum locally in all my cases and I congratulate myself on having done so, since they all recovered." A throat brush dipped into the petroleum and shaken free of any excess of the liquid is passed every hour or every two hours, according to the gravity of the case, over the parts covered by membrane. The application is said not to be painful—on the contrary, it produces a soothing effect. The only drawbacks are the disagreeable taste and odour of the petroleum. Membranes expelled by patients and received into capsules containing petroleum are almost totally dissolved after a gradual process of disintegration. The treatment lasted on an average a fortnight, at the end of which recovery generally occurred almost suddenly. The diagnosis was confirmed by the discovery of the Klebs Loeffler bacillus and by the supravivention in several instances of complications and sequelæ, such as bronchitis, broncho pneumonia, paralysis and albuminuria.

The Orchilococcus

It has hitherto been taken for granted that the occurrence of orchitis—or rather epididymitis—in the course of an attack of gonorrhœa was due to the invasion of that organ by the migration of the gonococcus of Neisser. MM Hougoung and Eraud (Académie des Sciences, Feb 27th) appear, however, to have successfully isolated the specific microbe of blennorrhagic epididymitis. The newly discovered micro-organism is a diplococcus of much the same shape as Neisser's gonococcus, but it is larger, the isolated cocci measuring about 1 μ . Like the gonococcus, it is discoloured by Gram's method, but it is distinguishable from it by the following properties whilst the gonococcus is with difficulty cultivated even on human serum, in which it dies at the end of two or three days, the orchilococcus thrives well on peptone, peptonised gelatine, ordinary bouillon and alkaline solutions of casein and nuclein, maintaining in these different media the faculty of reproduction and the integrity of its forms for a year and longer. The orchilococcus is frequently found in gonorrhœal pus during the first few days of the disease. It happens, however, sometimes that this pus sown upon gelatine yields no culture. Now, when this is the case, such patients are never attacked with orchitis. If, on the contrary, pus thus grown on gelatine yields colonies of the micro-organism the onset of the testicular complication is to be feared. Negative cultivation results enable us therefore to foretell that the gonorrhœa will run its course without the epididymis being infected. The microbe exercises no action on the conjunctiva, the areolar tissue, the peritoneum, or on the urethra itself. On introducing the culture (on peptonised bouillon) into the testis of the dog, an attack of orchitis is induced. The inflammatory products collected from the bouillon culture produce the same effects,

but act much more energetically, the orchitis induced being often accompanied by profuse suppuration and being sometimes followed by atrophy of the affected organ.

March 21st.

BERLIN

(FROM OUR OWN CORRESPONDENT)

The Balneological Society

THE discussions of the fifteenth annual assembly of this Society began on the 11th, in the Lecture Hall of the Pharmacological Institute here. Jahn of Berlin spoke on the Physical Properties of Fluids, and Gans of Karlsbad communicated the results of experimental investigations of Diseases of the Kidneys. The second meeting was held on the 12th. Weissenberg of Kolberg spoke on the Most Urgent Hygienic Requirements of the German Health Resorts, and Liebreich on Natural and Artificial Mineral Waters. The third meeting was held on the 13th. Winternitz of Vienna discoursed on the Cold Water Treatment of Articular Rheumatism, Leyden on Diabetes, Müller of Berlin on Gymnastic Exercises for the Simultaneous Development of the Antagonistic Muscles, and Kolbe of Reinerz on the Effects of Mineral Waters in the Treatment of Phthisis. The fourth meeting was held on the 14th, Lenné of Neuenahr, Kallay of Karlsbad and Liebreich of Berlin spoke on Diabetes, Dührssen of Berlin on the Therapeutic Results of Baths in Diseases of Women, Marcus of Pyrmont and Senator of Berlin on the Treatment of Basedow's Disease, and Liebig of Reichenhall on Increased and Diminished Atmospheric Pressure. The fifth and last meeting was held on the evening of the 14th. Keller of Rheinfelden read a paper on the Use of Brine Baths containing 12 to 25 per cent. of Salt, Abel of Odessa on Mud and Brine Baths in the Health Resorts near Odessa, Saalfeld of Berlin on the Care of the Skin, Liebreich on the Bathing and Rubbing of New born Infants, Schubert of Reinerz on Bloodletting and Putzar of Königsbrunn on Neurasthenic Gastro-intestinal Atony.

The German Epidemic Bill.

A meeting was held for the discussion of the Epidemic Bill in the Imperial Home Office on the 14th inst. Secretary of State von Boetticher presided and the Prussian Minister of Ecclesiastical, Educational and Medical Affairs, with several counsellors of the medical department, the Director of the Imperial Office of Health, Professor Koch, and numerous representatives of the various German States were present.

The International Sanitary Conference

The King of Saxony received the delegates to the International Sanitary Conference on the 15th inst. and entertained them at a banquet, at which the Saxon Ministers and the members of the Diplomatic Corps were present.

Miscellaneous Items

Dr Ernst Siemerling, assistant in the Clinic for Mental Diseases at Berlin, has accepted the posts of Director of the Clinic for Mental Diseases at Tübingen and of professor there.

The general assembly of the Society of Prussian Medical Officials will be held in the Langenbeck House here on the 10th and 11th prox.

The German Anatomical Society will hold its annual meeting at Göttingen on May 21st, 22nd, 23rd, and 24th, Professor Waldeyer in the chair.

Berlin, March 20th.

Obituary.

SEPTIMUS W SIBLEY, F.R.C.S.

THE seventh son of the late Mr Robert Sibley, architect and surveyor of the county of Middlesex, the subject of this notice was born in Great Ormond street in 1831. He was educated first at a private school and then at University College School, London, where he obtained several prizes for mathematics pure and applied and for natural philosophy. He then attended lectures at University College under Professor de Morgan and at this time worked chiefly at higher mathematics and experimental philosophy with his friends St. William Flower, Dr Routh and the late Sir Robert Forster.

residence at Alnwick of about thirty years. I noted the banquet which was given him by the townspeople of Alnwick on his retirement. Dr Candlish, who was held in the greatest respect by all classes in the north of England and whose character was marked by a distinct individuality, was a nephew of the great Dr Candlish, of the Free Church of Scotland.

The late Dr Heath of Newcastle

I hear that the munificent bequests of the late Dr Heath, including £6000 for a residential hall in connexion with the Durham College of Medicine, Newcastle, have been paid over this week to the trustees. Dr Heath's bequests to educational and charitable objects amount to £30,000.

Newcastle-on Tyne, March 22nd.

IRELAND

(FROM OUR OWN CORRESPONDENT)

Royal College of Surgeons

A MEETING of the Fellows to consider the "Government of Ireland Bill" as affecting the future state of the College and the position and interests of its Fellows and Licentiates was held at the College on Saturday last, presided over by Mr Thornley Stoker, Vice President, in the absence of the President from illness. The following resolutions were proposed by Sir George Porter, Bart., seconded by Sir William Stokes, and, after considerable discussion, adopted by a large majority:—"That we protest against the passing of the Government of Ireland Bill now before Parliament, as, should it become law, it would seriously injure the College and be injurious to the interests of its Fellows and Licentiates, inasmuch as—firstly, that it imperils the existence of the Charter and of the College, secondly, that, the property of the College exclusive of its buildings being secured by mortgage on lands, its value will be depreciated, thirdly, that the moneys provided for medical charities (including Poor law, medical and sanitary services), amounting to about £100,000 a year, appear to be totally unprovided for, fourthly, that the Bill makes no provision for the registration of the members of the medical profession under the General Medical Council or for the control of that Council over medical education in Ireland, that as a result it is to be feared that students intending to practise outside Ireland will no longer be educated at home or take their diplomas from the Irish licensing bodies." The financial aspect of the Bill as it would affect the revenues of the college was the only part of the Bill permitted to be discussed.

Stewart Institution for Imbecile Children.

This institution has been in existence for twenty four years, and its usefulness is shown in the increasing contributions and the demand for additional accommodation. As to the proposed extension of the buildings, the committee are not yet in a position to undertake it, for the cost of carrying out the plans has been found to be higher than was originally estimated. Up to the present the funds available are about £5000, but at least as much more will be required before the principal portion of the work can be commenced. The postponement of the work has entailed great inconvenience, and not the least of the drawbacks attendant on the present limited accommodation is the entire inability of the management to provide the necessary arrangements called for by the friends of imbecile children who are in a position to pay for their maintenance. As this is a considerable source of income in similar establishments in England and elsewhere, there is reason to believe that the Stewart Institution suffers a large annual loss by being unable to meet such applications, and were the committee in a position to receive private pupils at suitable rates of payment it is certain they would be enabled to maintain a much larger number of free pupils than is possible at present.

Sanitary Institute Lectures

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showed that the Corporation, by an expenditure of £600,000 in sanitary improvements, had caused the high fever death rate of Dublin to be now below that of the mean rate in the English towns. The lecturer pointed out how difficult it was in Dublin to have nuisances abated by giving notice, and that it was impossible to get more than 90 per cent. of them abated without tedious legal proceedings being taken, whilst in most English towns notices to abate nuisances were obeyed at once.

Kingstown Main Drainage

The Kingstown town commissioners have resolved that it is desirable to ascertain whether an extensive scheme of main drainage is necessary for their township, and with that object a special committee has been appointed to make the proper inquiries and to advise the board thereon. The committee will have power to make arrangements to complete the float experiments requisite to ascertain the direction of the tidal currents and, upon the rejection by the authorities of the Blackrock and Kingstown Drainage and Improvement Bill now before Parliament, to prepare and submit to the Commissioners such scheme as they may deem necessary for the effectual drainage of the district.

Cloyne Dispensary

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March 21st.

PARIS

(FROM OUR OWN CORRESPONDENT)

Suture of Ulnar Nerve Four Months after Section, Rapid Return of Sensation

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The Consumption of Ice in Paris

Visitors to this "city of light" cannot fail to note the enormous consumption of ice in the cafés and restaurants, and many of them must have indulged in speculations on the origin of such a vast supply of the refreshing commodity. Most of it is natural ice collected during the winter months from various lakes in the neighbourhood of the capital. Of the total amount thus garnered (30,000 tons) the Lac Daumesnil at Vincennes is responsible for from 12,000 to 15,000 tons and the Bois de Boulogne lake for half that quantity. The remainder comes from ponds at La Briche, St Ouen, Chaville, St. Cloud, Château Frayet and Tournel. The original cost of this natural ice varies from three to four francs a ton. Of the artificial product the Société Anonyme des Glacières de Paris supplies 24,000 tons and the Société Anglaise from 2000 to 3000 tons, the manufacturing cost being eighteen or nineteen francs per ton. With regard to the natural ice I have already drawn attention to its frequent impurity. Take, for instance, the Daumesnil Lake, from which is drawn half the supply of

natural ice consumed in Paris. The *Médecine Moderne* informs its readers that a sewer opens at the top of that sheet of water and that, besides, it is fed by an artificial stream, which, rising in the plateau of Gravelle, crosses a large part of the Vincennes wood. A visit to that wood on a fine Sunday will easily enable the observant sanitarian to judge of the manner in which the waters of this artificial river are adulterated by the numerous holiday makers strolling on its banks. Until provisions are made by the authorities to safeguard the purity of the natural product I should strongly recommend visitors to this city who indulge in the consumption of ice to insist upon being supplied with that manufactured artificially by the companies above mentioned.

The Petroleum Treatment of Diphtheria

In the third number of the *Normandie Médicale* Dr Flahaut relates the history of an epidemic of diphtheria that occurred at La Neuville—Champ-d'Oisel—in 1891/92, seventy persons being attacked. In the first and earlier series of cases (thirty) reported the usual topical treatment (carbolic acid, sublimate, salicylic acid &c.) was followed, with the result that nine out of the thirty patients died. For the remaining forty, local applications of petroleum were employed, all the cases recovering. From the day on which this new treatment was instituted the mortality became suddenly nil. M. Flahaut says—"I commenced this mode of treatment on a little girl whose fauces tonsils and soft palate were covered with thick false membranes. From the very first applications of the petroleum the membranes were seen to whiten, retract and almost dissolve under the brush. The same evening she breathed more easily and expelled some membranous exudations. Five days later the child was, if not absolutely cured, out of danger and complete recovery was only a question of time. From that time forth I employed petroleum locally in all my cases and I congratulate myself on having done so, since they all recovered." A throat brush dipped into the petroleum and shaken free of any excess of the liquid is passed every hour or every two hours, according to the gravity of the case, over the parts covered by membrane. The application is said not to be painful—on the contrary, it produces a soothing effect. The only drawbacks are the disagreeable taste and odour of the petroleum. Membranes expelled by patients and received into capsules containing petroleum are almost totally dissolved after a gradual process of disintegration. The treatment lasted on an average a fortnight, at the end of which recovery generally occurred almost suddenly. The diagnosis was confirmed by the discovery of the Klebs Loeffler bacillus and by the superinfection in several instances of complications and sequelæ, such as bronchitis, broncho pneumonia, paralysis and albuminuria.

The Orchococcus

It has hitherto been taken for granted that the occurrence of orchitis—or rather epididymitis—in the course of an attack of gonorrhœa was due to the invasion of that organ by the migration of the gonococcus of Neisser. M. Huguoneng and Enaud (Académie des Sciences, Feb 27th) appear, however, to have successfully isolated the specific microbe of blennorrhagic epididymitis. The newly discovered micro-organism is a diplococcus of much the same shape as Neisser's gonococcus, but it is larger, the isolated coccus measuring about 1 μ . Like the gonococcus, it is discoloured by Gram's method, but it is distinguishable from it by the following properties: whilst the gonococcus is with difficulty cultivated even on human serum in which it dies at the end of two or three days, the orchococcus thrives well on peptone, peptonised gelatine, ordinary bouillon and alkaline solutions of casein and nuclein, maintaining in these different media the faculty of reproduction and the integrity of its forms for a year and longer. The orchococcus is frequently found in gonorrhœal pus during the first few days of the disease. It happens, however, sometimes that this pus sown upon gelatine yields no culture. Now when this is the case, such patients are never attacked with orchitis. If, on the contrary, pus thus sown on gelatine yields colonies of the micro-organism the onset of the testicular complication is to be feared. Negative cultivation results enable us therefore to foretell that the gonorrhœa will run its course without the epididymis being infected. The microbe exercises no action on the conjunctiva, the areolar tissue, the peritoneum, or on the urethra itself. On introducing the culture (on peptonised bouillon) into the testis of the dog an attack of orchitis is induced. The inflammatory products collected from the bouillon culture produce the same effects,

but act much more energetically, the orchitis induced being often accompanied by profuse suppuration and being sometimes followed by atrophy of the affected organ.

March 21st.

BERLIN

(FROM OUR OWN CORRESPONDENT)

The Balneological Society

THE discussions of the fifteenth annual assembly of this Society began on the 11th, in the Lecture Hall of the Pharmacological Institute here. Jahn of Berlin spoke on the Physical Properties of Fluids, and Gans of Karlsbad communicated the results of experimental investigations of Diseases of the Kidneys. The second meeting was held on the 12th. Weissenberg of Kolberg spoke on the Most Urgent Hygienic Requirements of the German Health Resorts, and Liebreich on Natural and Artificial Mineral Waters. The third meeting was held on the 13th. Winternitz of Vienna discoursed on the Cold Water Treatment of Articular Rheumatism, Leyden on Diabetes, Müller of Berlin on Gymnastic Exercises for the Simultaneous Development of the Antagonistic Muscles, and Kolbe of Reinerz on the Effects of Mineral Waters in the Treatment of Phthisis. The fourth meeting was held on the 14th, Lenné of Neuenahr, Kallay of Karlsbad and Liebreich of Berlin spoke on Diabetes, Dührssen of Berlin on the Therapeutic Results of Baths in Diseases of Women, Marcus of Pyrmont and Senator of Berlin on the Treatment of Basedow's Disease, and Liebig of Reichenhall on Increased and Diminished Atmospheric Pressure. The fifth and last meeting was held on the evening of the 14th. Keller of Rheinfelden read a paper on the Use of Brine Baths containing 12 to 25 per cent. of Salt, Abel of Odessa on Mud and Brine Baths in the Health Resorts near Odessa, Saalfeld of Berlin on the Care of the Skin, Liebreich on the Bathing and Rubbing of New born Infants, Schubert of Reinerz on Bloodletting and Putzar of Königsbrunn on Neurasthenic Gastro intestinal Atony.

The German Epidemic Bill

A meeting was held for the discussion of the Epidemic Bill in the Imperial Home Office on the 14th inst. Secretary of State von Boetticher presided and the Prussian Minister of Ecclesiastical, Educational and Medical Affairs, with several counsellors of the medical department, the Director of the Imperial Office of Health, Professor Koch, and numerous representatives of the various German States were present.

The International Sanitary Conference

The King of Saxony received the delegates to the International Sanitary Conference on the 15th inst. and entertained them at a banquet, at which the Saxon Ministers and the members of the Diplomatic Corps were present.

Miscellaneous Items

Dr Ernst Siemerling, assistant in the Clinic for Mental Diseases at Berlin, has accepted the posts of Director of the Clinic for Mental Diseases at Tübingen and of professor there.

The general assembly of the Society of Prussian Medical Officials will be held in the Langenbeck House here on the 10th and 11th prox.

The German Anatomical Society will hold its annual meeting at Göttingen on May 21st, 22nd, 23rd, and 24th, Professor Waldeyer in the chair.

Berlin, March 20th.

Obituary.

SEPTIMUS W SIBLEY, F.R.C.S.

THE seventh son of the late Mr Robert Sibley architect and surveyor of the county of Middlesex the subject of this notice was born in Great Ormond street in 1831. He was educated first at a private school and then at University College School, London, where he obtained several prizes for mathematics pure and applied and for natural philosophy. He then attended lectures at University College under Professor de Morgan and at this time worked chiefly at higher mathematics and experimental philosophy with his friends Sir William Flower, Dr Routh and the late Sir Robert Ker Porter.

a residence at Alnwick of about thirty years. I noted the banquet which was given him by the townspeople of Alnwick on his retirement. Dr Candlish, who was held in the greatest respect by all classes in the north of England and whose character was marked by a distinct individuality, was a nephew of the great Dr Candlish, of the Free Church of Scotland.

The late Dr Heath of Newcastle

I hear that the munificent bequests of the late Dr Heath, including £6000 for a residential hall in connexion with the Durham College of Medicine, Newcastle, have been paid over this week to the trustees. Dr Heath's bequests to educational and charitable objects amount to £30,000.

Newcastle on Tyne, March 22nd

IRELAND

(FROM OUR OWN CORRESPONDENT)

Royal College of Surgeons

A MEETING of the Fellows to consider the "Government of Ireland Bill" as affecting the future state of the College and the position and interests of its Fellows and Licentiates was held at the College on Saturday last presided over by Mr Thornley Stoker, Vice-President, in the absence of the President from illness. The following resolutions were proposed by Sir George Porter, Bart, seconded by Sir William Stokes, and, after considerable discussion, adopted by a large majority: "That we protest against the passing of the Government of Ireland Bill now before Parliament, as, should it become law, it would seriously injure the College and be injurious to the interests of its Fellows and Licentiates, inasmuch as—firstly, that it imperils the existence of the Charter and of the College, secondly, that, the property of the College exclusive of its buildings being secured by mortgage on lands, its value will be depreciated, thirdly, that the moneys provided for medical charities (including Poor law, medical and sanitary services), amounting to about £100,000 a year, appear to be totally unprovided for, fourthly, that the Bill makes no provision for the registration of the members of the medical profession under the General Medical Council or for the control of that Council over medical education in Ireland, that as a result it is to be feared that students intending to practise outside Ireland will no longer be educated at home or take their diplomas from the Irish licensing bodies." The financial aspect of the Bill as it would affect the revenues of the college was the only part of the Bill permitted to be discussed.

Stewart Institution for Imbecile Children.

This institution has been in existence for twenty four years, and its usefulness is shown in the increasing contributions and the demand for additional accommodation. As to the proposed extension of the buildings, the committee are not yet in a position to undertake it, for the cost of carrying out the plans has been found to be higher than was originally estimated. Up to the present the funds available are about £5000, but at least as much more will be required before the principal portion of the work can be commenced. The postponement of the work has entailed great inconvenience, and not the least of the drawbacks attendant on the present limited accommodation is the entire inability of the management to provide the necessary arrangements called for by the friends of imbecile children who are in a position to pay for their maintenance. As this is a considerable source of income in similar establishments in England and elsewhere, there is reason to believe that the Stewart Institution suffers a large annual loss by being unable to meet such applications, and were the committee in a position to receive private pupils at suitable rates of payment it is certain they would be enabled to maintain a much larger number of free pupils than is possible at present.

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IMPROVED STEAMSHIPS—Improvements are gradually being introduced into the construction of steamers in order to render them more and more suitable for the conveyance of invalids in search of health in other climates. The *Ave*, a first-class mail and passenger steamer belonging to the Royal Mail Steam-Packet Company is a very fine specimen of a modern vessel. Accommodation is provided for 215 first class passengers, thirty six second class and 350 emigrants. The ship is built of steel and is divided into eleven compartments by ten watertight bulkheads and will be lighted by electricity throughout.

THE LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY—At a meeting of the council of this society on Feb. 28th a large number of new members were elected and it was announced that new districts had been formed in East Central London, Wandsworth and Plymouth. Several cases were reported in which the efforts of the society had been successful in checking illegal or unprofessional practice, and the secretaries were instructed to take action in other cases which were brought under the notice of the society. It was resolved that arrangements be made to hold a dinner after the annual meeting on June 1st, or on a subsequent Tuesday or Thursday in that month. Dr Heron, on behalf of the Finance Committee, presented a satisfactory interim report of the financial position of the society.

ROYAL MICROSCOPICAL SOCIETY—At the meeting of this Society on the 15th inst. an electric turntable was exhibited on behalf of Mr Payne of Newcastle. It was of the ordinary pattern, having an electric motor fitted beneath the plate, the whole was caused to revolve by the current from a chromate battery cell. Dr W H Dallinger gave a brief description of Professor Bütschli's experiments on the so-called artificial protoplasm and said that he could not suppose that anyone looking at these forms would regard them as in any way allied to living matter. Other specimens were shown and short papers were read, after which Professor Bell introduced some remarks from the pen of Dr G M. Giles on Certain Cystic Worms which Simulate the Appearances of Tuberculosis. Dr Hebb said he had never met in England with any worms such as those described in the paper. Professor Bell thought the observations of Dr Giles were of considerable importance, because, if the large number of animals which were killed as being tuberculous were really not so, it might be possible to prevent their destruction. A paper by Dr Stokes, On New Brackish Water Infusoria from the United States, was taken as read.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND—The quarterly meeting of this Association was held on the 9th inst. in the Medical Institution, Liverpool, under the presidency of Dr Baker. Dr Wilesworth Ramhill Asylum, read a paper on "General Paralysis occurring about the Period of Puberty." Up to the present time it has been commonly supposed that the disease came on only in adult life, but he cited cases which he had treated showing that adolescence was by no means exempt from general paralysis. A discussion followed, in which the facts and conclusions of Dr Wilesworth were confirmed.—Dr F St. John Bullen gave an account of the out-patient system now being practised at the West Riding Asylum, Wakefield, but he was unable to say whether the results were of a satisfactory character. From the discussion which took place, the system, on the whole, was not approved of.—Dr J Cumming Mackenzie read notes showing that it is possible for the Celtic Highlander to acquire general paralysis and allied neuroses at home, but at the same time he demonstrated that there was less general paralysis among the Celts than among the Saxons.—It was resolved to invite subscriptions in aid of the family of the late Dr Ball, who died at Paris recently. In the evening the members and their friends dined together at the Adelphi Hotel, under the chairmanship of the President, Dr Baker. Among those present were the mayor (Mr R D Holt) Mr W S Barrett, Mr Thomas Snape, M.P., Dr Glynn and several members of the profession residing in Liverpool. After the loyal toasts had been proposed by the chairman and duly honoured Dr Savage submitted "The Houses of Parliament." Mr Thomas Snape, M.P. in responding bore testimony to the self-sacrificing efforts of the medical staff of Ramhill Asylum, and suggested that it would be a very desirable thing to ask Parliament to empower the County Councils to supply funds for the training of nurses.

NOTES IN PARLIAMENT

Parish Councils

THE long-expected Bill dealing with parish councils has been introduced into the House of Commons by the President of the Local Government Board. Mr Fowler had no difficulty in showing the anomalies of local government in rural districts and how any inhabitant might be governed by the vestry the burial board, a highway board, the school board, the guardians and the quarter sessions. His proposal that parish councils should be constituted to replace existing administrations is the natural sequel to the passing of the Local Government Act of 1883 and upon these councils will devolve if the Bill pass in its present form, certain important sanitary duties. Thus the council may provide recreation grounds and have power of utilising any water supply within a parish, as well as powers to deal with ditches drains stagnant water and any matters likely to be prejudicial to health. At the present time it is the statutory duty of the district councils—Mr Fowler says he hopes to make it more binding upon them—to see to the water supply and to the sanitary requirements of every parish within their areas, and as we understand it, the parish council is to have power of representation to the county council when the district council is in default. The details of the administration which is thus foreshadowed cannot be fully understood until the Bill is printed and under these circumstances it is desirable to postpone any discussion of the subject. We shall therefore hope to revert to it very shortly.

The General Medical Council.

The accounts of the General Medical Council and Branch Councils and of the Dental Registration Fund for 1892 have been presented to the two Houses of Parliament.

The Food and Drugs Act

At the House of Commons on Wednesday a deputation from the committee of the Federation of Grocers' Associations in the United Kingdom waited upon Dr Cameron M.P. with reference to the Bill of which he has charge for amending the Sale of Food and Drugs Act of 1875. The deputation expressed general approval of the provisions of the Bill. They agreed that it was quite as necessary to deal with wholesale as with retail traders, and they submitted that the invoice of the wholesale trader should be regarded as a warranty so far as the retail trader was concerned. With regard to the provision as to the mixture of coffee with chicory the members of the deputation, whilst appreciating its merits were afraid difficulty might arise in getting magistrates to carry it out strictly. Dr Cameron thanked the deputation for their sympathy and their promises of support. As to the percentage of water to be allowed in butter, he informed them that he had not been able to fill in any figures because of the great variety of practice in different parts of the country, both on the part of magistrates and of analysts. Evidence would be required to be taken on the point, and he hoped with this view that the Bill would be referred to a select committee. In promoting the Bill he was glad to find that he had the sympathy both of the traders and of the analysts. In such circumstances he looked confidently to the future. Before leaving the room the deputation thanked Dr Cameron for receiving them.

Cholera Hospitals (Ireland) Bill.

In the House of Commons on the 16th inst., this Bill passed through Committee and was read a third time.

Tuberculosis.

In reply to Mr Field Mr H. Fowler said he was informed by the Secretary of the Royal Commission on Tuberculosis that it was impossible to fix the precise date of the termination of the work of the Commission and of the presentation of their report. It was hoped that the experiments now proceeding would have terminated by the end of April, and by the end of June it was anticipated, the whole of the microscopical investigations would be complete and the reports of the subcommittees be in the hands of the Commission. The question of compensation would be reserved.

The Disposal of the Dead

Dr Cameron who had given notice to move an amendment to the terms of the motion that a select committee be appointed to inquire into the sufficiency of the existing law as to the disposal of the dead congratulated the Government on their decision to grant that committee and said that in England alone 50,000 interments took place yearly without proper certificates of death being given.—Dr Farquharson, who had arranged to second the amendment, joined his congratulations with those of Dr Cameron and would have been prepared to enforce the need of such an inquiry as that contemplated.

The Supply of Water to the Metropolis

Mr Stuart on the order for the second reading of the East London Water Bill, moved the rejection of the measure a course in which he was sustained he said by the decision of the London County Council. He maintained that the Bill was inopportune since the report of the Commission on the whole subject of the metropolitan water supply was likely to be quickly forthcoming.—Mr Bonhôte deprecated opposition to the Bill, and Mr Mellor thought the House would incur grave responsibility by rejecting the measure at that stage. The House however testified its willingness to accept that responsibility by throwing out the Bill by a majority of 176 against 152.

Fur and Glanders.

In answer to questions put by Mr Foster Mr Campbell Bannerman said that for the last five years the horses of the army had been free

At this period of his life he desired to enter upon a mathematical career. He entered as a student at the Middlesex and University College Hospitals in the year 1848, attending lectures at the latter and clinical work at the former school. Whilst at University College Hospital he obtained the gold medal in medicine, the first silver medal being obtained by Dr Bartlett of Ipswich and the second silver medal by Sir Joseph Lister. He also obtained the silver medal in surgery the gold medal being carried off by Mr J S Gamgee, and the second silver one by Sir Joseph Lister.

His chief contemporaries at the hospital were Wilham Flower, Joseph Lister and William Roberts. He became a Member of the Royal College of Surgeons in the year 1852 and a Fellow in 1857. At the Middlesex Hospital he was at first house surgeon, and then medical registrar from 1853 to 1860. He was afterwards appointed lecturer in pathology, which post he held for ten years. In 1856 Mr Sibley became partner with Mr Thomas Farquhar Chilver, succeeding Mr Martin Tupper. This practice was one of the leading ones of the day, being founded by Sir Walter Farquhar, physician to George IV. He was an active member of the Middlesex Hospital Medical Committee for many years and a prominent member of the British Medical Association. He afterwards became a Fellow of the Royal Medical and Chirurgical Society, a member of the Council of the Clinical Society and a member of the Pathological Society. In 1886 Mr Sibley was elected to the Council of the Royal College of Surgeons representing the general practitioners, the duties of which post he discharged for several years. He was also chairman of the Managing Committee of the Dental Hospital of London for ten years, succeeding his friend Campbell de Morgan. His chief contributions to the literature of medical science were "History and Description of the Cholera Epidemic in London in 1854" in the *Royal Medical and Chirurgical Society's Transactions*, and "Statistics on Cancer," "Fibrinous Obstruction of Arteries," "The Nature of Colloid" &c. He married a daughter of the late Sir Robert Carden, Bart., M.P. His widow, two sons and five daughters, together with a brother, General T H Sibley, J.P., and his sister, Lady Tomes, the wife of Sir John Tomes, F.R.S., survive him.

DR. RICHARD ALFRED O'BRIEN

AN Irish practitioner of much experience and skill in Oriental maladies, Dr O'Brien had for some years lived in retirement in a Florentine villa, where, on Tuesday, Feb 28th, he passed away after a lingering illness. His professional studies were prosecuted partly in Dublin and partly in Pennsylvania, at which latter school he graduated M.D. in 1855. In 1864 he qualified as Licentiate in Medicine at the King and Queen's College of Physicians of Ireland, taking its diploma in Midwifery in the same year, whilst, also in 1864, he became Licentiate in Surgery of the Royal College in Edinburgh. Of the latter College he was elected a Fellow in 1882, having become a Member of the former in 1881. His professional life was spent chiefly in Hong Kong, where he steadily rose to be the trusted and esteemed consultant of a large *chentele*, American as well as British. About ten years ago he withdrew from regular practice and devoted much of the fortune he had amassed to the promotion of the charitable objects dear to him throughout life.

DR MASSIMILIANO CARTEI

DEATH, which has of late been busy in the Italian ranks of the profession, has removed few abler or more accomplished practitioners than Dr Cartei of the commune of Brozzi in Tuscany. Born in 1827, he was, like many of his compatriots of that generation swept into the revolutionary vortex, out of which emerged Italy "one and independent." Experience in camp and on battlefield was not thrown away upon him, but gave to his medical studies a seriousness and a practical efficacy which reacted for good throughout his academical career. Shortly after the upheaval of 1848 he resumed attendance at the Pisa School, and having graduated there he was appointed assistant physician in the "Arcispedale" of Santa Maria Nuova in Florence. Thereafter he rejoined his father (also a medical practitioner) and, having settled in the commune of Brozzi, was presently engaged in combating the terrible cholera explosion of 1855. By his energetic philanthropy he founded first an asylum for the sick poor and then a hospital, his experience of the epidemic having taught him how signally visitations of that kind are cut short or mitigated, and their professional teaching utilised, by such institutions, well appointed and on an adequate scale. By

1887 his health constrained his retirement to Florence, where, to the regret of a wide circle of friends of all professions, he died on Feb 23rd.

Medical News.

UNIVERSITY OF CAMBRIDGE.—At a congregation held on the 18th inst. the degree of Bachelor of Medicine and Surgery was conferred on the following gentlemen—

Herbert John Paterson, Trinity Percival Horton-Smith St. John's, Reginald Darby Randall Crofton Atkins Clare John Shepperson Baraes Pembroke George William Harvey Bird, Emmanuel.

CORSTORPHINE CONVALESCENT HOME.—On Wednesday, March 15th, this institution, to which most of the convalescents from the Edinburgh Royal Infirmary belong was reopened after alterations by the Marchioness of Tweeddale.

EPSOM COLLEGE NATURAL HISTORY SOCIETY.—The report of this society for the past year gives a very favourable account of the work that has been accomplished in the various sections since the last statement was issued. It is very gratifying to find that the interest heretofore exhibited by the students of the college in the aims and objects of the society shows no sign of falling off, but rather goes on increasing from year to year. A society such as the one under notice must prove a useful auxiliary to the scholastic work usually undertaken in schools and colleges.

A JOINT HOSPITAL FOR HALIFAX.—On the 16th inst. a meeting of representatives of sanitary authorities of Halifax and its vicinity was held in the Town Hall to consider the advisability of forming a joint hospital for the area. The Mayor, who presided, said that Halifax was now provided with a small pox hospital, but there was no fever hospital or building specially devoted to the reception of persons suffering from contagious diseases. It was, however, desirable that a hospital for this purpose should be provided, the benefits of which might be participated in by surrounding districts. Though there were a few dissentients at the meeting the proposition gained the support of the great majority of those present.

BRITISH MEDICAL TEMPERANCE ASSOCIATION.—A general meeting was held on March 17th at the London Temperance Hospital by permission of the board, and was well attended. Dr B W Richardson, F.R.S., read a paper entitled a Review of Twelve Months' Medical Practice in the Wards of the London Temperance Hospital, which consisted of a summary of the nature and results of his first completed 200 cases with notes of the treatment pursued in some of them. Of these 58 per cent recovered, 22 per cent were relieved, 5.5 per cent were unrelieved and 14.5 per cent died. The cases were admitted as in other hospitals and many were severe. No alcohol had been administered in any case or in any form and the results had been satisfactory. He had largely employed inhalations of oxygen, peroxide of hydrogen and ozonic ether. Remarks were made by Dr Norman Kerr, Dr Moir and Dr Ridge, the last speaker, as a physician of the same hospital, testifying to his surprise and gratification at the results obtained.

MASON COLLEGE, BIRMINGHAM.—Mr Oliver Pemberton, F.R.C.S., J.P., was elected balliff of the Trust and President of the Council at the twenty second annual meeting of the trustees on the 23rd ult. In order to comply with the wishes of his colleagues on the governing body, that he should preside over their deliberations during the ensuing year, Mr Pemberton resigned his position, as we briefly announced last week, as Queen's co-Professor of Surgery. The council signified their acceptance of the resignation in the following terms—"That in accepting Mr Oliver Pemberton's resignation of the chair of surgery the council desire to record their sense of the great value of his services to the Birmingham School of Medicine for the long and unbroken period of nearly thirty years, as a college and clinical teacher, and particularly as Professor of Surgery for twenty five years. The council hereby express their strong desire that Mr Pemberton will consent to accept the position of an Emeritus Professor of Surgery in the College, in order that by this mark of well deserved recognition and distinction his name may still remain connected with the medical school with which he has been for many years so intimately, usefully, and honourably associated."

IMPROVED STEAMSHIPS—Improvements are rapidly being introduced into the construction of steamers in order to render them more and more suitable for the conveyance of invalids in search of health in other climates. The *Alce*, a first-class mail and passenger steamer belonging to the Royal Mail Steam-Packet Company, is a very fine specimen of a modern vessel. Accommodation is provided for 215 first class passengers, thirty six second class and 350 migrants. The ship is built of steel and is divided into seven compartments by ten watertight bulkheads and will be lighted by electricity throughout.

THE LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY—At a meeting of the council of this society on Feb 28th a large number of new members were elected, and it was announced that new districts had been formed in East Central London, Wandsworth and Plymouth. Several cases were reported in which the efforts of the society had been successful in checking illegal or unprofessional practice, and the secretaries were instructed to take action in other cases which were brought under the notice of the society. It was resolved that arrangements be made to hold a dinner after the annual meeting on June 1st, or on a subsequent Tuesday or Thursday in that month. Dr Heron, on behalf of the Finance Committee, presented a satisfactory interim report of the financial position of the society.

ROYAL MICROSCOPICAL SOCIETY—At the meeting of this Society on the 15th inst. an electric turntable was exhibited on behalf of Mr Payne of Newcastle. It was of the ordinary pattern, having an electric motor fitted beneath the plate, the whole was caused to revolve by the current from a bichromate battery cell. Dr W H Dallinger gave a brief description of Professor Bütschli's experiments on the so-called artificial protoplasm and said that he could not suppose that anyone looking at these forms would regard them as in any way allied to living matter. Other specimens were shown and short papers were read, after which Professor Bell introduced some remarks from the pen of Dr G M. Giles on Certain Cystic Worms which Simulate the Appearances of Tuberculosis. Dr Hebb said he had never met in England with any worms such as those described in the paper. Professor Bell thought the observations of Dr. Giles were of considerable importance, because, if the large number of animals which were killed as being tuberculous were really not so, it might be possible to prevent their destruction. A paper by Dr Stokes, On New Brackish Water Infusoria from the United States, was taken as read.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND—The quarterly meeting of this Association was held on the 9th inst. in the Medical Institution, Liverpool, under the presidency of Dr Baker. Dr Wilesworth, Rainhill Asylum, read a paper on "General Paralysis occurring about the Period of Puberty." Up to the present time it has been commonly supposed that the disease came on only in adult life, but he cited cases which he had treated showing that adolescence was by no means exempt from general paralysis. A discussion followed, in which the facts and conclusions of Dr Wilesworth were confirmed.—Dr F St John Bullen gave an account of the out-patient system now being practised at the West Riding Asylum, Wakefield, but he was unable to say whether the results were of a satisfactory character. From the discussion which took place, the system, on the whole, was not approved of.—Dr J Cumming Mackenzie read notes showing that it is possible for the Celtic Highlander to acquire general paralysis and allied neuroses at home, but at the same time he demonstrated that there was less general paralysis among the Celts than among the Saxons.—It was resolved to invite subscriptions in aid of the family of the late Dr Ball, who died at Paris recently. In the evening the members and their friends dined together at the Adelphi Hotel, under the chairmanship of the President, Dr Baker. Among those present were the mayor (Mr R. D. Holt), Mr W S. Barrett, Mr Thomas Snape, M.P., Dr Glynn and several members of the profession residing in Liverpool. After the loyal toasts had been proposed by the chairman and duly honoured, Dr Savage submitted "The Houses of Parliament." Mr Thomas Snape, M.P. in responding, bore testimony to the self-sacrificing efforts of the medical staff of Rainhill Asylum, and suggested that it would be a very desirable thing to ask Parliament to empower the County Councils to supply funds for the training of nurses.

NOTES IN PARLIAMENT

Parish Councils

THE long-expected Bill dealing with parish councils has been introduced into the House of Commons by the President of the Local Government Board. Mr Fowler had no difficulty in showing the anomalies of local government in rural districts and how any inhabitant might be governed by the vestry the burial board, a highway board the school board, the guardians and the quarter sessions. His proposal that parish councils should be constituted to replace existing administrations is the natural sequel to the passing of the Local Government Act of 1883 and upon these councils will devolve, if the Bill pass in its present form, certain important sanitary duties. Thus the council may provide recreation grounds and have power of utilising any water supply within a parish as well as powers to deal with ditches drains stagnant water and any matters likely to be prejudicial to health. At the present time it is the statutory duty of the district councils—Mr Fowler says he hopes to make it more binding upon them—to see to the water supply and to the sanitary requirements of every parish within their areas and as we understand it, the parish council is to have power of representation to the county council when the district council is in default. The details of the administration which is thus foreshadowed cannot be fully understood until the Bill is printed, and under these circumstances it is desirable to postpone any discussion of the subject. We shall therefore hope to revert to it very shortly.

The General Medical Council.

The accounts of the General Medical Council and Branch Councils and of the Dental Registration Fund, for 1892 have been presented to the two Houses of Parliament.

The Food and Drugs Act

At the House of Commons on Wednesday a deputation from the committee of the Federation of Grocers' Associations in the United Kingdom waited upon Dr Cameron M.P. with reference to the Bill of which he has charge for amending the Sale of Food and Drugs Act of 1875. The deputation expressed general approval of the provisions of the Bill. They agreed that it was quite as necessary to deal with wholesale as with retail traders, and they submitted that the invoice of the wholesale trader should be regarded as a warranty so far as the retail trader was concerned. With regard to the provision as to the mixture of coffee with chicory the members of the deputation whilst appreciating its merits were afraid difficulty might arise in getting magistrates to carry it out strictly. Dr Cameron thanked the deputation for their sympathy and their promises of support. As to the percentage of water to be allowed in butter he informed them that he had not been able to fill in any figures because of the great variety of practice in different parts of the country, both on the part of magistrates and of analysts. Evidence would be required to be taken on the point, and he hoped with this view that the Bill would be referred to a select committee. In promoting the Bill he was glad to find that he had the sympathy both of the traders and of the analysts. In such circumstances he looked confidently to the future. Before leaving the room the deputation thanked Dr Cameron for receiving them.

Cholera Hospitals (Ireland) Bill.

In the House of Commons on the 16th inst., this Bill passed through Committee and was read a third time.

Tuberculosis.

In reply to Mr Field, Mr H. Fowler said he was informed by the Secretary of the Royal Commission on Tuberculosis that it was impossible to fix the precise date of the termination of the work of the Commission and of the presentation of their report. It was hoped that the experiments now proceeding would have terminated by the end of April, and by the end of June, it was anticipated, the whole of the microscopical investigations would be complete and the reports of the subcommittees be in the hands of the Commission. The question of compensation would be reserved.

The Disposal of the Dead

Dr Cameron, who had given notice to move an amendment to the terms of the motion that a select committee be appointed to inquire into the sufficiency of the existing law as to the disposal of the dead congratulated the Government on their decision to grant that committee and said that in England alone 50,000 interments took place yearly without proper certificates of death being given.—Dr Farquharson, who had arranged to second the amendment, joined his congratulations with those of Dr Cameron and would have been prepared to enforce the need of such an inquiry as that contemplated.

The Supply of Water to the Metropolis

Mr Stuart on the order for the second reading of the East London Water Bill, moved the rejection of the measure a course in which he was sustained he said by the decision of the London County Council. He maintained that the Bill was inopportune since the report of the Commission on the whole subject of the metropolitan water supply was likely to be quickly forthcoming.—Mr Boulnois deprecated opposition to the Bill, and Mr Mellor thought the House would incur grave responsibility by rejecting the measure at that stage. The House however testified its willingness to accept that responsibility by throwing out the Bill by a majority of 170 against 152.

Farcy and Glanders.

In answer to questions put by Mr Foster Mr Campbell Bannerman said that for the last five years the horses of the army had been free

from farcy and glanders as a result of good sanitary measures and precautions against contagion.—Speaking for his department, Mr Gardner said he regretted that the London County Council had not fallen in with his views with regard to the justice of compensating local authorities for the slaughter of diseased animals in compliance with the order issued in September last. But he believed nevertheless that the enforcement of the other terms of the order had been attended with success so that the number of affected animals had shown a considerable falling off. Under these circumstances he did not contemplate taking any further steps at present.

Vaccination.

Mr A. C. Morton, Dr Farquharson, and Mr Picton severally put questions on the subject of the issue of the Vaccination Commission and Mr Asquith assured the hon. members that the Commission had presented an interim report which was characterised by unanimity. He should therefore be prepared to introduce a Bill at the earliest available opportunity—probably in the course of a few days.

Lunacy Certificates in Ireland. *

Mr Maurice Henly asked the Chief Secretary to the Lord Lieutenant of Ireland with reference to the new practice recently introduced with regard to the transfer of dangerous lunatics from workhouses to district asylums in Ireland, whether hitherto as a preliminary to such transfer an order was first obtained from two justices under the Act 30 and 31 Vic. c. 115 s. 10 on a certificate from the dispensary doctor whether there had been any change in the law enabling this order and certificate to be dispensed with whether it was the practice now to transfer such lunatics in the same manner as if they were harmless pauper lunatics—i.e., without a magistrate's order and on the certificate of the workhouse doctor merely and on what authority this change of practice was based.—Mr John Morley replied that he was informed that no such practice as the hon. member referred to had been introduced. As to the second paragraph there had been no change in the law to this effect. As to the third, persons admitted to district asylums as dangerous lunatics required a committal order signed by two justices and a certificate by the dispensary medical officer. Of course if the hon. member was aware of any case in which he was advised that there had been a departure from the law, he (Mr Morley) would inquire into it.

Cases of Supposed Infectious Disease.

On the 20th inst. Mr Macdonald drew attention by a question addressed to the President of the Local Government Board to a report which recently appeared in the public press wherein it was stated that last year owing to mistaken diagnosis 401 persons were removed to fever and small pox hospitals whereas none of these individuals were suffering from either of these diseases and 102 of them had lost their lives in consequence of such removal.—Mr H. Fowler said that 450 of the number above mentioned were cases in which admission was granted upon certificates which were afterwards found to be incorrect. The diseases from which those patients really suffered were ascertained by diagnosis after admission, and death ensued in 97 cases. It was utterly untrue that the deaths were due to the removal of the patients to the asylums.

County Medical Officers in Scotland.

Sir G. Trevelyan said, in reply to a question put by Dr Farquharson that by Clause 62 of the Local Government Act for Scotland it was enacted that it was for the county councils to determine whether or not their medical officers were to be debarred from private practice. In distributing the grant of £15,000 provided by Parliament amongst the counties of Scotland in aid of their medical expenditure it was made a condition by the Scotch Office that none of that grant should go to a county where the medical officer took private practice. Inasmuch however as Parliament clearly intended that the matter should be left to the discretion of the local body he (Sir G. Trevelyan) had ceased to exact any condition with regard to the point in question. [This subject, it will be recollected, was dealt with by us in a leading article last week.]

Parish Councils

On the 21st inst. Mr H. Fowler introduced a Bill to make larger provision for local government in England and Wales and in furtherance of an implied understanding that the Act of 1889 needed more legislation to make it complete. The parish would be the primary unit of local administration in rural districts. The vestries would be abolished and the civil parish would be alone recognised and dealt with. In every parish of 800 inhabitants and upwards a council would be established which would appoint overseers of the poor. To this council the whole machinery of the Allotments Act would be transferred and new powers would be given to it. By the Bill a district council could delegate to a parish council any power which might be entrusted to a parochial committee under the Public Health Act. Parishes having a population under 800 inhabitants would be grouped with other parishes. This measure, if passed, would effect radical changes in the machinery by which parish affairs had hitherto been conducted. It met with great favour by the bulk of the members present and was read a first time.

Hours of Labour in Shops

Sir J. Lubbock moved a resolution expressive of the opinion of the House that excessive and long-continued labour in shops is injurious to the comfort and well-being of persons engaged therein. He alluded to the legislation which had already been adopted in favour of factory workers and argued that shop assistants needed and might claim, relief in the same direction. He enforced his plea by reference to the report of the Parliamentary committee appointed in 1888 the members of which were unanimously of opinion that an Act of Parliament was necessary to curb the evil attending prolonged labour in shops. The workers themselves for the most part approved and sympathised with the efforts put forth to shorten the hours devoted to such work which had to be carried on often with defective light and in impure air. The motion was seconded by Mr Bartley and was supported by several members. Mr Asquith expressed his approval of the resolution which was unanimously agreed to.

Working Men's Dwellings Bill.

On Thursday Mr Wrightson moved the second reading of this Bill, which did not he said, propose to aid a man financially except for the purpose of acquiring a dwelling for himself, and this result, he maintained, could be better achieved by the instrumentality of the State than by means of a building society.—Mr H. Fowler on behalf of the Government, offered no opposition to the motion, and the Bill was read a second time and referred to a committee.

Sale of Intoxicating Liquors.

The second reading of the Bill for the more effectual control of the liquor traffic was moved by Mr Bolitho. By this measure it was proposed that a licensing authority should be established which should consist of not more than twelve members and to whom should be transferred the powers at present exercised by the licensing justices.—The Marquis of Carmarthen pointed out certain differences between the measure under discussion and that introduced by the Government, and moved that the Bill be read a second time this day six months.—The Chancellor of the Exchequer said that in that Bill the licensing board would have the power not only to limit the number of licenses but to extinguish them. As far as the Government were concerned they cordially supported the second reading of the Bill. Other speakers followed, and in the end the debate was adjourned.

BOOKS ETC RECEIVED

ABEL AMBR. Leipzig

Abriß der Lehre von den Nervenkrankheiten. Von P. J. Möbius. 1893 pp 188.

CHURCHILL, J. & A., New Burlington street, London.

The Cardinal Symptoms of Urinary Disease, their Diagnostic Significance and Treatment. By E. H. Fenwick, F.R.C.S. Eng. Illustrated 1893 pp 354

The Leeward Islands Medical Journal. Vol. II. edited by H. A. Nicholls, M.D., F.L.S. 1892 pp 166

DORNAN, W. J. Philadelphia.

Transactions of the American Gynecological Society Vol. XVII, for the year 1892 pp 493.

HEINEMANN, WM. London.

A Manual of Bacteriology By A. B. Griffiths, Ph.D., F.R.S.E. 1893 pp 348

LONGMANS GREEN & Co., London.

Clinical Lectures on Abdominal Hernia. By Wm. H. Bennett, F.R.C.S. With Twelve Diagrams. 1893 pp 225. Price 5s. 6d.
Manual of Health and Temperance By F. Brodribb, M.A., and Rev W. R. Pym, M.A. 1893. pp 103. Price 1s. 6d.

MACMILLAN & BOWES Cambridge.

Some Lectures by the late Sir George E. Paget, K.C.B. M.D., F.R.C. Edited from MSS. With a Memoir by C. E. Paget. 1893. pp 181

PENTLAND YOUNG J., Edinburgh and London.

Physical Diagnosis a Guide to Methods of Clinical Investigation. By G. A. Gibson M.D. D.Sc., F.R.C.P. Edin. and Wm. Russell, M.D. F.R.C.P. Edin. Second Edition Illustrated 1893.
Diseases of the Eye a Practical Treatise for Students of Ophthalmology By Geo. A. Berry M.B., F.R.C.S. Edin. Second Edition Illustrated 1893 pp 727

RUEFF ET OIE, Paris.

Formulaire Gynécologique Illustré Par le Dr A. Auvard pp 112
Formulaire Obstétrical Illustré Par le Dr A. Auvard pp 118
État Mental des Hystériques les Stigmates Mentaux. Par P. Janet pp 238

SAMPSON LOW, MARSTON & Co Fetter lane, Fleet-street, London.

Essays by Sir Morell Mackenzie 1893. pp 396.

SOCIÉTÉ D'ÉDITIONS SCIENTIFIQUES, Paris

Hygiène des Fiancés Par Dr Jacques Nattus 1893. pp 130.
Détermination Pratique de la Réfraction Oculaire par la Kéatoscopie on Skiascopie, application à l'Examen des Conscrits. Par le Dr Billot. 1893. pp 100

STEINHEIL, G. Paris.

De l'influence des Affections Nasales sur l'Appareil Respiratoire. Par Dr F. Chabory 1892. pp 69

STEVENS & SONS Chancery lane London.

Oaths and Affirmations in Great Britain and Ireland. By F. A. Stringer Second Edition 1893. pp 184 Price 4s

STOCK, ELLIOT, Paternoster row, London.

How to improve the Physique. By "Medicus." 1893. pp 51.

SWAN SONNENSCHIEIN & Co Paternoster square London.

Charity Organisation Series. The Feeble minded Child and Adult. With Tables, List of Books of Reference &c. 1893. pp 152.

VOLTA BUREAU Washington

Notes and Observations upon the Education of the Deaf With a Revised Index to Education of Deaf Children. By Joseph C. Gordon M.A., Ph.D. 1892. pp 80

VOSS LEOPOLD, Hamburg and Leipzig

Das Augenleuchten und die Erfindung des Augenspiegels, dargestellt in Abhandlungen By E. Brücke and others. 1893. pp 154

Les Trois Livres de Jérôme Fracastor sur la Contagion, les Maladies Contagieuses et leur Traitement. Traduction et Notes, par L. Mennier, 1893 (Société d'Éditions Scientifiques, Place de l'École de Médecine, Paris).—State of New York State Commission in Lunacy Third Annual Report, 1891 (J. B. Lyon, Albany).—What is Efficient Vaccination? by Brigade-Surgeon Robt. Pringle M.D. Edin reprint (G. J. Clark, Lincoln's Inn fields, London, W.C., 1892).—Model Answers to Questions for Examination of Sanitary Inspectors compiled from the Sanitary Record (The Proprietor "Sanitary Record" 2, Lexham gardens London W.) price 2s.—The Ophthalmic Review, March, 1893 (J. & A. Churchill, London) price 1s.—L'Opium ses Abus, Mœurs et Fumeurs d'Opium Morphomanes par le Docteur Ernest Martin (Société d'Éditions Scientifiques, Paris 1893).—Le Bacterium Coll dans l'Infection Urinaire par le Dr Jules Remak, 1893 (Société d'Éditions Scientifiques, Paris).

Appointments.

For applicants for Vacancies Secretaries of Public Institutions, and for possessing information suitable for this column are invited to send it to THE LANCET Office directed to the Sub-Editor, not later than 11 o'clock on the Thursday morning of each week for publication in its next number

ALFRED W. A. H. L.R.C.P. Lond. L.R.C.S. Edin. has been appointed Medical Officer for the Isolation Hospital, Guildford.

ANDREW C. HENSON L.R.C.P. Lond. M.R.C.S. L.S.A. has been appointed Resident Clinical Assistant to the St. Marylebone Infirmary, vice G. Thornton, M.D., resigned.

DAVID G. H. L.R.C.P. L.M. Edin. L.F.P.S. Glasg. has been reappointed Medical Officer of Health for the Brynmawr Urban Sanitary District.

DR. F. J. M.B. C.M. Edin. has been appointed Medical Officer for the North Western Sanitary District of the Chester Union.

DR. ALBERT L.R.C.P. Lond. M.R.C.S. has been appointed Medical Officer to the Bristol Dispensary.

DR. D. B. M.B. C.M. Edin. has been appointed Medical Officer for the Spalding Sanitary District of the Roedale Union, vice Turner, resigned.

DR. G. B. L.R.C.P. L.M. L.R.C.S. Edin. has been appointed Medical Officer for the Bishton Sanitary District of the Blackburn Union.

DR. MAX F. J. M.B., B.S. Lond. has been appointed House Physician to Guy's Hospital.

DR. A. M. M.B., B.S. Lond. has been appointed Assistant House Physician to Guy's Hospital.

DR. W. H. M.R.C.S. has been appointed Medical Officer for the Third Sanitary District of the Wellington (Som.) Union.

DR. J. C. M.B., B.S. Lond. has been appointed Assistant House Physician to Guy's Hospital.

DR. P. A. L.D.S. R.C. Eng. has been appointed Honorary Dentist to the Dartmouth Cottage Hospital.

DR. H. M. C. W., L.R.C.P. Irel. has been appointed Medical Officer for the St. Laurence's Sanitary District of the Carlisle Union, vice Downe, resigned.

DR. T. E. M.B. B.S. Lond. F.R.C.S. has been appointed House Surgeon to Guy's Hospital.

DR. ERNEST L.R.C.P. Lond. M.R.C.S. has been appointed Second Assistant Medical Officer to the Levesden Asylum, Kings Langley.

DR. WILL. S. L.R.C.P. Edin. & L.M. M.R.C.S. has been appointed Medical Officer and Public Vaccinator to the Bildeston District of the Cosford Union also Medical Officer to the Cosford Union Workhouse vice Grosse, resigned.

DR. MONTAGUE F. L.D.S. Eng. has been appointed Assistant Dental Surgeon to Guy's Hospital.

DR. A. B. L.R.C.P. Lond. M.R.C.S. has been appointed Medical Officer for the Stradbroke Sanitary District of the Horne Union, vice Thomas, resigned.

DR. A. E. M.R.C.S. L.R.C.P. has been appointed House Surgeon to Guy's Hospital.

DR. E. B. M.R.C.S. L.R.C.P. has been appointed House Physician to Guy's Hospital.

DR. G. M.B. C.M. Glasg. has been reappointed Medical Officer of Health for the Patheley-bridge Rural Sanitary District.

DR. ALFRED DONALD M.A. M.B., C.M. Edin. has been appointed House Surgeon and Secretary to the Stamford, Rutland and General Infirmary vice Crisp, resigned.

DR. ARTHUR E. M.R.C.S. L.R.C.P. Lond. has been appointed Physician's Assistant to the Bristol General Hospital.

DR. C. S. M.B., B.S. Lond. has been appointed Assistant House Surgeon to Guy's Hospital.

DR. F. M. M.B. M.S. Edin. has been appointed Medical Officer for the Fourth Sanitary District of the Hamilton Union.

DR. J. L. M.B., M.S. Edin. has been appointed Medical Officer for the Sandfield Sanitary District of the Todmorden Union vice Measures, resigned.

DR. W. L.R.C.P. Lond. M.R.C.S. has been appointed Medical Officer of the Workhouse Parish of Birmingham, vice Rowlands, resigned.

DR. ERNEST L.R.C.P. Lond. L.S.A. has been appointed Honorary Medical Officer to the Cripples Home, Marylebone-road W.

DR. HAROLD L.D.S. Eng. has been appointed Assistant Dental Surgeon to Guy's Hospital.

DR. T. R. M.B. B.S. Lond. has been appointed Assistant House Surgeon to Guy's Hospital.

DR. SIDNEY W. E. M.B., B.S. Lond. has been appointed Honorary Assistant Surgeon to the Nottingham Hospital for Women.

DR. W. LILIAN L.R.C.P. & S.E. L.S.A. has been appointed Physician in Charge to the Dufferin Hospital, Shikarpur, Sind, India.

DR. F. L.R.C.P. Lond. M.R.C.S. has been appointed Honorary Surgeon to the Doncaster Infirmary and Dispensary vice McKay, resigned.

DR. C. H. M.R.C.S. L.S.A. has been appointed Medical Officer of Health to the Midmore Norton Local Board.

DR. HENRY M.R.C.S. L.R.C.P. has been appointed Honorary Surgeon to the Nottingham Hospital for Women.

DR. LOUGHRY W. G., M.D. Lond. D.P.H. Camb. has been reappointed Medical Officer of Health for Plymouth.

Vacancies.

Further information regarding each vacancy reference should be made to the advertisement. (See Index).

TOY INFIRMARY AND DISPENSARY—Senior House Surgeon. Salary £125 per annum, with furnished apartments, board and attendance.

CHURCH DISPENSARY—Resident House Surgeon. Salary £125 a year, with furnished house, rent and taxes free, also coal, light, water and cleaning, or in lieu thereof £25 per annum.

GENERAL INFIRMARY AT GLOUCESTER AND THE GLOUCESTERSHIRE EYE INSTITUTION—House Surgeon. Salary £100 per annum, with board, lodging and washing.

HIGHWORTH AND SWINDON UNION—Medical Officer and Public Vaccinator for District No. 1 of the Union. Salary £70 per annum, with the usual extra medical fees for midwifery and surgical cases, and also vaccination fees. Apply to the Clerk of the Guardians, Office No. 6, High street Swindon.

HOSPITAL FOR WOMEN (THE LONDON SCHOOL OF GYNECOLOGY) School-square W.—Clinical Assistants.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST Brompton.—House Physicians.

INGHAM INFIRMARY South Shields.—Two House Surgeons (Senior and Junior). Salaries Senior £60 rising by instalments of £5 to £70 per annum Junior £50 per annum, each with board and residence.

LONDON HOSPITAL, Whitechapel, E.—Assistant Physician.

METROPOLITAN HOSPITAL, Kingsland road, N.E.—Dental Surgeon.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Albany Memorial) Queen-square, Bloomsbury.—Physicians for out-patients.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Albany Memorial) Queen square Bloomsbury—Registrar and Pathologist.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Albany Memorial) Queen-square, Bloomsbury—Assistant Physician.

PARISH OF ST. LEONARD Shoreditch—Second Assistant Medical Officer for the Infirmary, Hoxton street N. for six months. Salary £40 per annum, with rations, furnished apartments and washing in the Infirmary. Apply to the Medical Officer 204 Hoxton-street London, N.

POPULAR AND STEEPNEY SICK ASYLUM DISTRICT—Assistant Medical Officer for the Asylum at Bromley Middlesex, E. Salary £130 per annum, with rations, furnished apartments and washing. Apply to the Clerk to the Managers, Bromley Middlesex E.

RADCLIFFE INFIRMARY Oxford.—Surgeon, for two years. Salary £80 a year, with board, lodging and washing.

RICHMOND DISTRICT ASYLUM Dublin.—Third Assistant Medical Officer and Pathologist (unmarried).—Salary £100 per annum, with furnished apartments and other allowances, valued collectively at £99 15s. 6d.

ROYAL HOSPITAL FOR CHILDREN AND WOMEN Waterloo-bridge road.—Resident Medical Officer. Salary £70 per annum, with board, lodging &c.

ROYAL FREE HOSPITAL Gray's-inn road.—Junior Resident Medical Officer for six months. Board, residence and washing provided.

ROYAL FREE HOSPITAL Gray's-inn-road.—Senior Resident Medical Officer for twelve months. Salary £190 per annum, with board, residence and washing.

UNIVERSITY COLLEGE, BRISTOL, MEDICAL SCHOOL—Medical Tutor. Stipend £125 per annum.

VESTRY OF FULHAM—Medical Officer of Health for the parish of Fulham. Salary £500 per annum. No further increase. Apply to the Clerk of the Vestry Town Hall Walham Green.

VICTORIA HOSPITAL FOR SICK CHILDREN Hall.—Resident Medical Officer. Salary £50 a year with board, rooms and washing.

WEST NORFOLK AND LYNN HOSPITAL, Lynn.—House Surgeon and Secretary. Salary £50 per annum, rising to £100.

YORK COUNTY HOSPITAL—Assistant House Surgeon. Salary £40 per annum with board, apartments and washing.

Births, Marriages and Deaths.

BIRTHS

BROOKS.—On March 16th, at Holywell, Oxford, the wife of Dr Brooks of a daughter.

BUTHELL.—On Jan. 23th, at Pekin, China, the wife of Dr S. W. Butshell, Physician to H.B.M.'s Legation, of a son.

CADDY.—On March 16th, at East-court gardens S.W. the wife of Duncan James Caddy M.B. of a daughter.

DEWSNAP.—On March 15th, at Gloucester road South Kensington, the wife of William Frederick Dewsnap M.R.C.S. L.R.C.P. of a daughter.

SMITH.—On March 20th at the Beeches, Shenley Herts the wife of R. V. Beatty Smyth, M.A. M.D. of a son.

MARRIAGES

GODDARD-FRY.—On March 16th, at St. Mary's, Horsell, Surrey Bertram Goddard, L.R.C.P. M.R.C.S. second son of Eugene Goddard M.D. of Highbury New Park N. to Charlotte second daughter of George Fry of Focklebrook, Chobham, Surrey.

PRICE-SMART.—On Feb. 27th, at Ramsgate John Dods Price, M.R.C.S. L.R.C.P. Lond. District Medical Officer Newington Asylum to Jessie Eleanor, only daughter of the late William Colville Smart.

DEATHS

ALLEN.—On March 17th, at his residence, Welburne Hall, Lincoln Robert Marshall Allen, F.R.C.S. Deputy Inspector-General of Army Hospitals, aged 55.

LAWRENCE.—On March 15th, at Liskeard Cornwall, John H. Lawrence M.R.C.E. aged 65.

MACKINTOSH.—On March 15th at Morden Hall, Torquay C. H. Mackintosh, M.D. St. And. M.R.C.S. Extra L.R.C.P. Lond. aged 65.

MANNING.—On March 20th, at Laverstock, Salisbury Henry Charles, eldest son of Henry John Manning, aged 24.

SIBLIT.—On March 15th at his residence The Hermitage Whitehill, Blechingley Surrey Septimus William Sibley, F.R.C.S., late of Harley street, W. aged 6.

F.B.—A fee of 5s. is charged for the insertion of Notices of Births Marriages and Deaths.

METEOROLOGICAL READINGS

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, March 23rd, 1893.

Data.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radiation in Vacuum.	Maxi- mum Temp. Shade.	Min. Temp.	Rain fall.	Remarks at 8.30 A.M.
Mar 17	29.82	N W	41	38	80	48	36	0.07	Bright
" 18	30.13	N W	41	38	91	46	36	0.02	Cloudy
" 19	30.46	N W	36	33	97	45	31	—	Hazy
" 20	30.45	N W	34	33	77	53	32	—	Hazy
" 21	30.40	S W	83	37	66	56	34	—	Foggy
" 22	30.33	S E.	41	40	78	55	38	—	Foggy
" 23	30.29	S E.	40	39	60	52	38	—	Foggy

Notes, Short Comments & Answers to Correspondents.

EDITORIAL NOTICE

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office

Lectures, original articles, and reports should be written on one side only of the paper

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub Editor"

Letters relating to the publication, sale and advertising departments of THE LANCET should be addressed "To the Publisher"

We cannot undertake to return MSS not used

PUBLISHER'S NOTICE

IN order to facilitate the work of reference to the volumes of THE LANCET, we have arranged in the future to publish duplicate copies of the Index to each half yearly volume in a form in which they may be subsequently filed or bound together

We have had a large number of duplicate copies of the Index to the last half yearly volume printed, and those of our subscribers who may wish to be supplied with loose copies can obtain the same (without extra charge) on making application to the Publisher of THE LANCET

FOREIGN BODIES IN THE STOMACH

DRS. CAREW AND WEIR publish notes of an unusual case of foreign bodies in the stomach, in the *Canadian Practitioner* for February. The patient, a man aged twenty-three, was an inmate of the Toronto Asylum. The tableware is always counted after meals and on Oct. 27th, 1892, the knife, fork and spoon used by this patient could not be found. He said that he had swallowed them, but was not believed. The knife measured 9½ in. long, blunt-edged, with a round point, fork, 7½ in. long four-pronged, spoon, 5½ in. long—all silver plated. Next day nausea was complained of, and the foreign bodies could be distinctly felt through the abdominal wall, and a distinct clicking noise could be heard. Operation was not permitted, and the patient died of peritonitis on Jan. 27th of this year, the result of perforation of the stomach by ulceration produced by the foreign bodies. At the post-mortem examination the stomach was found to be closely adherent to the ileum and transverse colon. The handles of the knife and fork could be felt passing down through the ileum

from the point of adhesion, and their extremities lodged in the cecum the bowl of the spoon could be felt in the duodenum and its tip had caused ulceration through the anterior wall of the duodenum with a slit-like perforation into the peritoneal cavity three inches and a half from the pylorus. The point of the knife was engaged in the mucous membrane of the stomach a little below the lesser curvature in the anterior wall, and had caused some ulceration there. The points of the fork were free. The stomach showed marked chronic inflammation, also the duodenum, there was an area of ulceration of some depth in the latter where the edge of the bowl of the spoon rested, but this had not perforated like the tip. The lower end of the oesophagus showed superficial ulceration. The knife blade had been considerably eroded by the gastric juice, but the fork and spoon showed no damage beyond the loss of the silver plating. The patient complained of pain only twice and on each occasion only for a short time. The only sign locally of the peritonitis was extreme distension

"SIMULTANEOUS AFFECTION OF THE LACRYMAL AND PAROTID GLANDS"

To the Editors of THE LANCET

SIRS,—The annotation on simultaneous affection of the lacrymal and parotid glands at page 603 of THE LANCET of March 18th reminds me of a case I saw during a recent epidemic of mumps in this town. The patient, a lad about seventeen years of age suffered from mumps affecting the right parotid mainly, and in a less degree the left. In a few days after the commencement of the attack the right testicle and denly became painful and inflamed the swelling of the parotids at the same time diminishing. Three days later the mother called my attention to a small firm swelling beneath the right upper eyelid towards its outer part, which was both painful and tender and was accompanied by profuse lachrymation and some injection of the vessels of the conjunctiva. At the same visit the orchitis was found to have greatly subsided. Cold compresses to the eyelid were ordered and the swelling rapidly disappeared. The idea crossed my mind at the time that this might be a case of mumps of the lacrymal gland and I accordingly looked up such authorities as were at hand but could find no light on the matter. The rarity of the cases recorded induces me to send you this brief account.

I am, Sirs yours truly,

LEWIS E. PARKHURST, D.A., M.B., B.Ch. Oxon
Brackley, Northamptonshire March 18th, 1893.

THE CLIMATE OF AUCKLAND

A CORRESPONDENT writes to us in praise of the climate of Lake Takapuna, near Auckland, from which he has derived great advantage as a sufferer from chronic bronchitis. From a combination of geographical and other causes the health giving qualities of the locality in question are regarded by our correspondent as quite exceptional, and he regrets that no account of it has been made public in Europe. The greatest heat about 80 in the shade, is always largely modified by a constant sea breeze and a cool wind from the south blowing from the high mountains of Otago. The rainfall is about forty nine inches and very evenly distributed during the year. The humidity of the region is so tempered that sufferers from bronchial affections are able to be out of doors almost all the year round. Frost is but rarely seen, the orange, the lemon and the guava tree flourish here in the open. Other advantages of the climate are enumerated and extolled by our correspondent, to which we have no space here to refer

Mr F. Sykes is thanked for his kind offer

GLYCERINE SUPPOSITORIES.

To the Editors of THE LANCET

SIRS,—The suppositories of glycerine mentioned by me in my recent article in THE LANCET can be procured at Mr Morgan Richards, 40 Holborn Viaduct London. They contain 95 per cent of glycerine, and their price is, I believe, 1s 9d. per dozen. They are made in two sizes, for children and adults. Would Mr Marshall of Mitcham and others who have written to me about these suppositories be kind enough to take this letter as an answer to their questions?

I am, Sirs, yours faithfully,

Bristol, March 18th, 1893. JAMES D. STAPLE, M.R.C.S. &c.

STATISTICS OF POPULATION

To the Editors of THE LANCET

SIRS,—Can any of the readers of THE LANCET inform me whether there are any statistics or other reliable information published on the following points? 1 The number of children born to each married couple in England and Wales, if possible distinguishing (a) the upper and middle classes (b) the sex of the population 2 Out of the children born how many attain the age of twenty one years?

I am, Sirs, yours truly,

Ladbroke-grove, W., March 21st, 1893 J. C. POLLOCK MUR.

CHOLERA IN UPPER ITALY

CHOLERA seems to have 'cast a shadow before' in the sub-Alpine commune of Entraque a neighbourhood numbering about 260 inhabitants some fifteen miles from Cuneo. The facts so far as ascertained by our Rome correspondent are the following. On the 7th inst. an Italian workman, aged forty, of weakly constitution, had crossed the frontier from France and fell ill at Entraque. In a few hours, during which he was attended by the local practitioner he died of what appeared to be distinctly pronounced cholera morbus. Thereupon the prefect, the Commendatore Alfazio sent for Dr Ambrosi the medico provinciale who immediately took all steps for the isolation of the malady and proceeded to a necropsy which confirmed the suspicions of the local attendant. The dejections carefully preserved, were removed for analysis; the results of which are not yet made public. The Home Office also received telegraphic notice of the case and the most rigorous surveillance was at once enforced at the frontier the French side of which is said to be ill provided from a hygienic point of view, and to be never without high rates of sickness and mortality. Unfortunately the case of the workman has not been singular. His mother in law a woman of seventy who nursed him was also taken ill, and, after a brief course of precisely the same symptoms died on the 12th. Dr Ambrosi having returned from an interview with the Commendatore Alfazio at Cuneo is redoubling his precautions at Entraque whilst strong detachments of carabineers and of the neighbouring Alpine regiments are vigilantly safeguarding all the approaches from France to Italy. Inspection and disinfection are practised on the minutest and most rigorous scale on all arrivals and none are allowed to pass without a medical certificate of ascertained fitness to do so. At Entraque itself the Church of Sant Antonio has been transformed into a lazaretto and no measures are spared to protect the country from such a visitation as that of 1834 which though carefully 'hushed up' was exceptionally severe as the Piedmontese and Liguian populations have every reason to remember."

Medical Diary for the ensuing Week.

Monday, March 27

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M., Fridays and Saturdays, at the same hour.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M. and on Tuesday, Wednesday, Friday, and Saturday at the same hour.
ST. MARK'S HOSPITAL.—Operations 2 P.M. Tuesday, 2.30 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations 2.30 P.M., Friday 2 P.M.
ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, daily at 10 A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.
CHELSEA HOSPITAL FOR WOMEN.—Operations, 2 P.M. Thursday 2 P.M.
HOSPITAL FOR WOMEN SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations 2 P.M.
ROYAL ORTHOPEDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.
UNIVERSITY COLLEGE HOSPITAL.—Ear and Throat Department, 9 A.M. Thursday 9 A.M. Eye Department 2 P.M.
MEDICAL SOCIETY OF LONDON.—8.30 P.M. Dr C. E. Beever. A case of Aphasia due to a Fall on the Head.—Dr F. Hawkins. Croupous Pneumonia in Children.

Tuesday, March 28.

GUY'S HOSPITAL.—Operations 1.30 P.M. and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.
CANCER HOSPITAL, BROMPTON.—Operations 2 P.M., Saturday, 2 P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Skin Department, 1.45 Saturday 9.15
ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electrotherapeutics, same day, 2 P.M.

Wednesday, March 29

NATIONAL ORTHOPEDIC HOSPITAL.—Operations 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1.30 P.M., Saturdays, 2 P.M. Obstetrical Operations, Thursdays 2 P.M.
CHARING-CROSS HOSPITAL.—Operations, 3 P.M., and on Thursday and Friday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M., Saturday same hour.
LONDON HOSPITAL.—Operations, 2 P.M., Thursday and Saturday same hour.
ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.
GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 1.30 P.M. Dental Department 9.30 A.M. Eye Department 2 P.M.
ROYAL FREE HOSPITAL.—Operations 2 P.M. and on Saturday.
CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations 9.30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.

Thursday, March 30

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations Wednesday 1.30 P.M. Ophthalmic Operations Friday 1.30 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M. Ear and Throat Department, 9 A.M. Eye Department, 2 P.M.

Friday, March 31.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Eye Department, 2 P.M.

Saturday, April 1.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M. and Skin Department, 9.15 A.M.

During the week marked copies of the following newspapers have been received.—Daily Argus Westminster Gazette News Morning Truth Leeds Mercury Bristol Mercury Liverpool Daily Post Yorkshire Post Port Elizabeth Telegraph (Cape of Good Hope) Manchester Examiner Scotsman Weekly Free Press and Aberdeen Herald West Middlesex Standard Local Government Chronicle Hertfordshire Mercury Mining Journal Reading Mercury City Press Surrey Advertiser Local Government Journal Leicester Post Agnostic Journal Public Opinion Scottish Leader West Middlesex Advertiser Coventry Times Spalding Free Press Le Temps (Paris) Times of India Pioneer Mail, Littlehampton News Poole Herald, Norfolk News Alfreton Journal, Torquay Times Cuthen Embay Gazette Sun (Melbourne) Dundee Advertiser Indian Mirror Sunday Times Builder Architect Worcester Daily Times Harrow Gazette Woolrich Gazette Halifax Evening Courier Cambrian (Swansea) Western Daily Press Essex Telegraph.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

IS THE "USUAL BOND" BINDING ON UNQUALIFIED ASSISTANTS?

To the Editors of THE LANCET.

SIRS.—Four years ago I was dispenser and did visiting for a medical gentleman, and at that time I had not done any hospital work, but I attended some of the College lectures. I was asked to sign a document which was to the effect that I would not practise within a radius of three miles from the residence of my employer. I am now fully qualified and registered, and I wish to ask you if such a document as the one I signed being then unqualified and it being now four years since I signed it no time having been specified therein prevents me from commencing practice on my own account in that town? Or is such a document an everlasting bar to my practising there?

I am, Sirs yours faithfully

March 21st 1893. L.R.C.P. L.R.C.S. ED. &C.

* It is not possible to give a positive opinion without seeing the agreement, which we are inclined to think may be valid. Our correspondent should consult a solicitor.—ED. L.

THE PUBLICATION OF THE DETAILED CENSUS REPORT

A CORRESPONDENT asks us for information as to the probable date upon which the public will be able to know the result of the Census which was taken two years ago. Volumes 1 and 2 of the Detailed Census Report will we are informed probably be presented to Parliament in the course of next month. Volume 3 (dealing with ages, birthplaces, occupations and infirmities) about midsummer and Volume 4 (containing the general report and index) early in the autumn. We may point out that the Preliminary Census Report issued in July 1891 gave the unreviewed results of the Census in counties, registration areas municipal boroughs and all other sanitary districts and in all Parliamentary areas.

MENTAL SCIENCE AT THE UNIVERSITY OF LONDON

To the Editors of THE LANCET.

SIRS.—I should esteem it a great favour if you would give me some idea of the best books to read for the examination in mental and moral science in the Final M.D. examination at the University of London. So far as I can learn, the candidates always seem to be very much troubled in answering the questions on account of their not knowing what to read.

I remain, Sirs, yours truly
March 23rd 1893. V.B.
(1) Savage or Clouston, on Insanity (2) Ladd's Psychology and (3) some special articles in Hack Tuke's Psychological Dictionary may be consulted.—ED. L.

Communications, Letters &c. have been received from—

- A.—Dr J McCall Anderson, Glasgow, Dr J Althaus, London, Dr A. G. Auld, Glasgow Mr T T Allt, Beckley, Amicos London, Ajax, London, Esculapius, Bristol.
- B.—Dr E. Blake, London Dr B. Barnard Cardiff Mr J Bellamy, London, Mr Stanmore Bishop Manchester, Dr Fletcher Beach, Sidcup, Mr G S Bigg London, Mr E. Brandt Paris Mr A. T. Bremner, Leicester, Commander Blount, R.N. Chelsea, Mr W G Bunn, London Mr C Birchall Liverpool, Messrs. Blakiston and Co, Philadelphia, Messrs Burroughs and Wellcome, London, Messrs. Brown, Gould and Co, London.
- C.—Dr M Charteris Glasgow Dr R. H. Coombs Bedford Mr J Cornish, Manchester, Mr F B Peery Coste, London, Croton London, Christopher
- D.—Mr W. Drewitt, Kingston-on-Thames, Surgeon Major D C Davidson Bombay Mr A. Duke, Cheltenham.
- E.—Edinburgh School of Medicine
- F.—Messrs Foster, Brown and Co, Montreal, Forceps, London
- G.—Dr C. Gowan, Manchester Mr Henry Green Preston, Mr W George, Prestonville Mr Muirgrave Graven, Kendal G, Gloucester General Infirmary
- H.—Dr M K. Hargreaves, London, Mr Hornbrook, London, Mr J Heywood, Manchester Mr C. Hitchcock, Market Lavington Mr F Garrett Horder Cardiff Mr J Harrold, London Hereford, H. T. W., Hospital for Women Soho-square
- I.—Inquirer Ingham Infirmary, South Shields.
- J.—Jaeger Sanitary Woollen Co, London.
- K.—Dr G. Kothe Friedrichs Mr J P Kirby, Swindon Kappa.
- L.—Dr Wm. Lauder Manchester Mr H. A. Lawson Longford Mr A. J. Lawrence, Rugby L., Sheffield London Temperance Hospital Leicester Trained Nurses Institution.
- M.—Dr Albert Mills Brussels Dr Thornton Macklin, Scilly, Mr R. Mosse London Mr C E March Croydon, Messrs Mitchell and Co London Messrs. McMillan and Co London M., London Maltine Manufacturing Co, London M B. Mason Col Jega, Birmingham, Secretary of, M.R.C.S.E.
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- P.—Dr Douglas Powell London Mr Peck Ormskirk, Prince's Hall, Piccadilly, Secretary of
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- T.—Mr T. W. Twyford Hanley Mr W. Scott Thomson London, Messrs Thomson, Brooks and Danby London, Teufel Remedial Appliances Co, London.
- V.—Mr J. W. Vickers, London, V. C., London.
- W.—Dr S. White, Sheffield, Dr F. J. Waldo, London Mr J. T. Willington, Macclesfield Mr E. Wright, Mollington West Norfolk Hospital, King's Lynn.
- Y.—York County Hospital.

Letters, each with enclosure, are also acknowledged from—

- A.—Mr W. E. Allen, Cardiff, Messrs. Allen and Hanburys, London Aberdonian London, Akyah, London, A. B. C., Leeds A. O. F., London, A. B. C., London, Achilles, London
- B.—Mr C. S. Breck New York City Mr W. S. Battis South sea Mr M. N. Byrn Weaver thorpe, Mr H. Butterfield, Northampton, Messrs. Brown and Co, Salisbury Brunston Shepherd's bush Bordesland London.
- C.—Dr C. Cochrane Basingstoke Mr B. Collins Dockhead, Mr J. Cochrane Greenock Mr J. Chivens, Ruardean, Mr H. J. Caplon, Bayswater Mrs Choat, Brading, I.W., Cosmo London, Car London Glass Rooms, Edinburgh Corinth, London, Can tab, Carlisle
- D.—Dr G. W. Davis Sidcup Dr H. Davies, Llanrwst, Mrs Danby, Lincoln Messrs. A. De St. Dulmas and Co, Leicester Deschamps, London Devon and Exeter Hospital.
- E.—E. R. H. G., London
- F.—Dr A. F. A. Fairweather Pocklington F.R.C.P. London, F. L. S., London Fidelis London.
- G.—Dr C. Godson London Dr J. Grant Napunce Ontario Canada Mr R. F. Granger Whitby Mr A. G. Gippis China Station Mr E. B. Granger Skipton General London Glamorgan County Council Genuine, London.
- H.—Dr C. Hull Barnsbury Dr H. Hicks Hendon Mr J. S. Heath, Cardiff Mr Hall Gravesend Mr C. N. Hewett, Minnesota U.S.A. Hull Law Stationery Society H. C. V., London, Hull Royal Infirmary
- J.—Mr D. Johnston, Small Heath Mr H. W. Jones Llanrwst Mr G. R. Jesse Macclesfield Jessop Hospital for Women, J. C., Burton on Trent.
- L.—Mr W. W. Leigh, Tetbury, Mr C. Lamplough, Leamington Lex, London, Longford Wm Co, Warrington Leeds Trained Nurses Institution Locua, Lincoln, L.R.C.P., Stockton-on-Tees.
- M.—Mr A. L. Martin Cornwall Mr M. M. McCarthy Co. Cork Mr R. P. McWatter, Armagh Mr F. McDougall, Runcorn, M. London Medicus, Westbourne park M.D., Brighton, Medicus Chester M. A. London M.B. Winchester, Medicus Newport Sloop Medicus, Cheetham
- N.—Dr J. S. M. Nurse, St. Kitts W. L. National Hospital for the Paralysed, Bloomsbury
- O.—Mr C. M. O'Brien, Bowes-park
- P.—Mr Pritchard Alney Llangefni Mr J. Procter, Great Berkhamstead.
- R.—Dr D. T. Richards Elms, D. T. H. Redwood, Rhymney M. H. S. Reynolds, Bendon Messrs. Rees and Latham, Wex Bromwich.
- S.—Mr J. Swale Leeds, Messrs Sharp and Co. Glasgow Messrs Squire and Sons London, S. H. London Sanitas, London, Starford Infirmary
- T.—Mr J. Thin, Edinburgh, Mr L. Trowby, Sindh Mrs Theobald Leicester, Mrs. Tyte, Minchingham, Thames, London T. Oldham.
- U.—141 Upton lane, Forest-gate.
- W.—Dr L. J. Weatherbe Edin burgh Mr T. S. Wise Rotherham, Mr T. Williams, Angles Mr J. E. Williams, Oswestry Messrs. Wright and Co. Bristol Messrs. Wilson, Hartnell and Co., Dublin, Wales, London W., London.
- X.—X. London
- Y.—York, London

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Answers are now received at this Office, by special arrangement, to Advertisements appearing in THE LANCET

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Agent for the Advertisement Department in France—J. ASTIER, 66, Rue Cassini, Paris.

REPORT OF THE LANCET COMMISSION

APPOINTED TO INVESTIGATE THE SUBJECT OF THE

ADMINISTRATION OF CHLOROFORM

AND OTHER ANÆSTHETICS

FROM A CLINICAL STANDPOINT

As mentioned in the introductory portion of this report, the basis of the statistics set forth is the series of cases, a portion of which we publish, with as full particulars as it is possible to produce in tabular form. The cases are those in which death has occurred when chloroform was being administered and when the death was apparently due to the direct influence of the drug and was so regarded by those who reported the occurrence. It has been thought advisable to divide these cases into three Series. In the first series (Series A) the deaths include those which occurred between the years 1848 and 1860. This series corresponds with the record of fatalities reported by the Special Committee of the Royal Medical Chirurgical Society published in vol. xxix of the Second Series of their Transactions in 1864 (p. 323 *et seq.*). It was, however, found necessary, in order to render this series more complete, to examine the journals and other published records of cases and to collate the facts so obtained with those furnished by the Royal Medical and Chirurgical Society's Transactions. Special assistance was obtained by the examination of Dr. Snow's volume, which, besides giving very full records of cases, furnished incisive criticisms and comments which suggested a further search for information. The second series (Series B) comprises the record of cases obtained from published accounts of fatalities which occurred between 1860 and 1891. The sources of information for these were the current medical literature and records afforded us in the shape of answers sent in to us in reply to our circular by medical practitioners both in the United Kingdom and abroad. The utmost attention has been paid to tabulating the records and in most instances several accounts of each fatality have been consulted and the essential particulars taken from them so as to form as full and connected a narrative as possible. The amount of information to be obtained varies very considerably, it being full to redundancy in some instances but most meagre in others. It has, however, been thought advisable to maintain the sequence by inserting the cases even when only the mere fact of the death has been notified. In the instances in which the deaths were reported to us by practitioners we have regarded the communication as a private one, in accordance with the terms of our forms, and have omitted from our published report the name of the patient and that of the medical man. In the third series (Series C) are included (1) the cases of fatalities which had occurred in private practice under chloroform reported by medical men on the smaller form sent out with THE LANCET inquiry, (2) similar cases supplied by hospital authorities on the larger form.

The first column in the tabular matter which we publish contains a number which refers to the original lists, thus affording a means of substantiating the authenticity of the record. The first series comprises 86 cases, the second series 539 and the third 27. The headings "Age" in the second and "Sex" in the third column need no special comment.

In the fourth column the nature of the operation and the duration of the period of administration of the chloroform are given. We have already pointed out the importance of affording due consideration to possible factors in determining a fatal result to chloroformisation, instancing the assumed danger of some operations when of a nature to give rise

especially to shock. The importance of considering the duration of the narcosis is evident when we remember that cooling of the patient's body, after effects such as sickness, the phenomena which many authorities, grouping together under the term "shock," believe to be the direct result of the action of the anæsthetic, are proportional to the time the patient is exposed to the influence of the chloroform. The duration is taken as representing the period of time between the commencement of the inhalation until the death of the patient, or, perhaps more correctly, until the commencement of measures adopted with a view of resuscitating the patient.

The next column is occupied with information concerning the nature of the anæsthetic and the method of employing it. Here we regret to have to draw attention to the loose way in which the "method" employed has been, as a rule, described. A detailed and exact definition of the method employed in every case of death under chloroform would probably lead to valuable criticism from those constantly engaged in the use of anæsthetics, and errors or slight inaccuracies of technique might be pointed out which would possibly save a repetition of errors sometimes immediately responsible for the fatality.

In the sixth column the question of pulse (P) and respiration (R) is considered with regard to which failed first. Thus, when the reports furnished to us state that the respiration failed before the pulse, this is notified in the column by the letter R. When the pulse is said to have ceased before respiration, it is represented by P, whilst when respiration and pulse are reported as stopping simultaneously, it is explained by the sign R and P. When doubt existed as to which failed first, a note of interrogation is used or placed before the letter P or R, according as the report said "probably" the pulse or the respiration failed first. Full allowance has been made for the difficulty of obtaining accurate information on this point, in the excitement of an impending death under chloroform, but the large number of cases examined possibly helps to eliminate errors of observation. Again, the liability to error most likely tells as much against one set of observations as against the other.

In the column dealing with the symptoms occurring under the anæsthetic as full but succinct an account of the whole case is given as the material at hand permitted.

In the eighth column the assigned cause of death is recorded and an attempt made to inquire into the indirect or adjuvant causes. In this column, also, is included a very brief account of the post-mortem appearances when a necropsy took place and was reported to us. Although these notes are very short it is believed that they include all the salient points. In some cases it will be noticed that the estimation formed of the patient's condition before the anæsthetic is in marked contrast with what the necropsy revealed.

In the ninth column, under the heading of "Remarks," are included facts which bear upon the general state of health of the patient at the time of the administration which might indicate a predisposing cause for his death under the anæsthetic. It is not for a moment contended that these records supply sufficient data for complete answers to the problems which the subject presents, but it is hoped that they may assist in obtaining a more thorough and intimate knowledge of the subject. When the full records have been published and the other anæsthetics have been considered in a similar way, it is proposed to offer some further remarks in which the various agents employed in producing anæsthesia and their effects will be compared.

Communications, Letters &c. have been received from—

- A.—Dr J McCall Anderson, Glasgow, Dr J Althaus London, Dr A. G Auld, Glasgow Mr T T Allt, Beckley, Amicos London, Ajax, London, Esculapins, Bristol.
- B.—Dr E Blake London Dr B. Barnard, Cardiff Mr J Bellamy, London, Mr Stanmore Bishop Manchester, Dr Fletcher Beach, Sidcup, Mr G S Bigg, London, Mr E. Brandt Paris Mr A. T Bremner, Leicester, Commander Blount, R.N., Chelsea Mr W G Bunn, London Mr C Birchall, Liverpool, Messrs. Blakiston and Co., Philadelphia, Messrs Burroughs and Wellcome London, Messrs. Brown, Gould and Co., London
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- D.—Mr W Drewitt, Kingston on Thames Surgeon Major D C Davidson, Bombay, Mr A. Duke, Cheltenham.
- E.—Edinburgh School of Medicine
- F.—Messrs Foster, Brown and Co., Montreal, Forceps, London.
- G.—Dr C. Gowan, Manchester Mr Henry Green Preston, Mr W George, Prestonville Mr Musgrave Graven, Kendal, G, Gloucester General Infirmary
- H.—Dr M. K. Hargreaves, London, Mr Hornbrook, London, Mr J Heywood, Manchester Mr C. Hitchcock, Market Lavington, Mr F Garrett Horder Cardiff Mr J Harrold London Hereford, H. T. W., Hospital for Women, Soho-square
- I.—Inquirer, Ingham Infirmary, South Shields.
- J.—Jaeger Sanitary Woollen Co., London.
- K.—Dr G Kothe, Friedrichsda, Mr J P Kirby, Swindon, Kappa.
- L.—Dr Wm. Lauder Manchester, Mr H. A. Lawson Longford, Mr A. J Lawrence, Rugby, L., Sheffield, London Temperance Hospital, Leicester Trained Nurses Institution
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- V.—Mr J W Vickers, London, V O, London
- W.—Dr S White Sheffield Dr F J Waldo, London Mr J T Willington Macclesfield Mr E. Wright Mollington West Norfolk Hospital, King's Lynn.
- Y.—York County Hospital.

Letters, each with enclosure, are also acknowledged from—

- A.—Mr W E. Allen, Cardiff, Messrs. Allen and Hanburys, London Aberdonian London, Akvab, London, A B C, Leeds A O F, London A B C, London, Achilles, London
- B.—Mr C S Breck New York City Mr W S Battis South sea Mr M N Byrn Weaver thorpe, Mr H Butterfield Northampton, Messrs. Brown and Co Salisbury Brunston, Shepherd's bush, Bordesland London.
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REPORT OF THE LANCET COMMISSION

APPOINTED TO INVESTIGATE THE SUBJECT OF THE

ADMINISTRATION OF CHLOROFORM

AND OTHER ANÆSTHETICS

FROM A CLINICAL STANDPOINT

As mentioned in the introductory portion of this report, the basis of the statistics set forth is the series of cases, a portion of which we publish, with as full particulars as it is possible to produce in tabular form. The cases are those in which death has occurred when chloroform was being administered and when the death was apparently due to the direct influence of the drug and was so regarded by those who reported the occurrence. It has been thought advisable to divide these cases into three Series. In the first series (Series A) the deaths include those which occurred between the years 1848 and 1860. This series corresponds with the record of fatalities reported by the Special Committee of the Royal Medical Chirurgical Society published in vol. *xxix.* the Second Series of their Transactions in 1864 (p. 323 *seq.*) It was, however, found necessary, in order to render this series more complete, to examine the journals and other published records of cases and to collate the facts obtained with those furnished by the Royal Medical and Chirurgical Society's Transactions. Special assistance was obtained by the examination of Dr. Snow's volume, which, besides giving very full records of cases, furnished valuable criticisms and comments which suggested a further search for information. The second series (Series B) comprises the record of cases obtained from published accounts of fatalities which occurred between 1860 and 1891. The sources of information for these were the current medical literature and records afforded us in the shape of answers sent to us in reply to our circular by medical practitioners both in the United Kingdom and abroad. The utmost attention has been paid to tabulating the records and in most instances several accounts of each fatality have been consulted and the essential particulars taken from them so as to form as full and connected a narrative as possible. The amount of information to be obtained varies very considerably, being full to redundancy in some instances, but most meagre in others. It has, however, been thought advisable to maintain the sequence by inserting the cases even when only the mere fact of the death has been notified. In the instances in which the deaths were reported to us by practitioners we have regarded the communication as a private one, in accordance with the terms of our forms, and have omitted from our published report the name of the patient and that of the medical man. In the third series (Series C) are included (1) the cases of fatalities which occurred in private practice under chloroform reported by medical men on the smaller form sent out with THE LANCET inquiry, (2) similar cases supplied by hospital authorities on the larger form.

The first column in the tabular matter which we publish contains a number which refers to the original lists, thus affording a means of substantiating the authenticity of the record. The first series comprises 86 cases, the second series 589 and the third 27. The headings "Age" in the second and "Sex" in the third column need no special comment. In the fourth column the nature of the operation and the duration of the period of administration of the chloroform are given. We have already pointed out the importance of affording due consideration to possible factors in determining a fatal result to chloroformisation, instancing the assumed danger of some operations when of a nature to give rise

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In the column dealing with the symptoms occurring under the anæsthetic as full but succinct an account of the whole case is given as the material at hand permitted.

In the eighth column the assigned cause of death is recorded and an attempt made to inquire into the indirect or adjuvant causes. In this column also, is included a very brief account of the post-mortem appearances when a necropsy took place and was reported to us. Although these notes are very short it is believed that they include all the salient points. In some cases it will be noticed that the estimation formed of the patient's condition before the anæsthetic is in marked contrast with what the necropsy revealed.

In the ninth column, under the heading of "Remarks," are included facts which bear upon the general state of health of the patient at the time of the administration which might indicate a predisposing cause for his death under the anæsthetic. It is not for a moment contended that these records supply sufficient data for complete answers to the problems which the subject presents, but it is hoped that they may assist in obtaining a more thorough and intimate knowledge of the subject. When the full records have been published and the other anæsthetics have been considered in a similar way, it is proposed to offer some further remarks in which the various agents employed in producing anæsthesia and their effects will be compared.

DEATHS UNDER CHLOROFORM

CASES FROM ROYAL MEDICAL CHIRURGICAL SOCIETY'S REPORT BETWEEN 1848 AND 1860

1 Reference.	2 Age	3 Sex	4 Operation and duration of administration.	5 Method of administration	6 P or R	7 Symptoms occurring under anæsthetic.	8 Assigned cause of death.	9 Remarks.
1	15	F	Removal of too nail (½ minute)	Handkerchief 1 dr		Anæsthesia incomplete. Became blanched spluttered as in epilepsy never rallied.	P M Stomach was distended with food. 'Syncope' (Snow)	Snow believed induction of anæsthesia was in this case too rapid.
2	36	F	Extraction of teeth (1 minute)	Dr Morton's Ether Inhaler ^a Large quantity	P	Operation nearly completed Arms became rigid P ceased after being feeble R ceased about same time. Became livid Death in 8 minutes	Syncope. P M. Nothing very remarkable save fluidity of blood.	Remarks as in previous case.
3	M		Fistula in ano (1 minute)	Towel or handkerchief. ½ dr	P	Anæsthesia incomplete (?). Showed slight symptoms of feeling pain. The P which was full and natural, sank. Death in 1 minute.	"Overdose" in way given (Snow) P.M. Heart enlarged, pale and soft.	Had had chloroform before. Was placed on his side.
4	F		Opening a sinus in thigh.	Handkerchief, 3 to 4 dr		Put up her hand and said 'I choke' Face immediately became pale breathing embarrassed Foamed at mouth Anæsthesia incomplete Death in 1 minute, probably before operation commenced	P.M. Heart pale and irritable.	Among measures adopted for resuscitation was forcible inflation of lungs this caused permanent distension of alveoli.
5	F		Amputation of middle finger	Handkerchief, 1 dr	P & R	"Coughed a little then gave a few convulsive movements" Anæsthesia incomplete. Death probably before operation commenced, probably in 1 or 2 minutes Death in 5 minutes.		
6	22	M	Cautery to wrist.	Apparatus.				
7	34	M	Amputation at hip for bullet wound.	Apparatus.		Breathing became stertorous and then very feeble countenance livid eyes turned upwards; P had ceased. Artificial R seemed to revive him and I was again felt, he relaxed however, and died Death on re application of CHCl ₃ , when sensibility was returning		
8	18	M	Extraction of teeth	In ether apparatus		Hands fell down and head fell on chest Artificial R but no recovery Incomplete anæsthesia. Operation not commenced Operation not commenced.		
9	F	M	Operation on great toe					
10	17	M	Phimosis and for hemorrhoids.	Napkin. 3 dr	P	Operation completed. Complete anæsthesia. Face and neck became livid eyes turned upwards P imperceptible at wrist and whole body relaxed After 2 or 3 gasps he ceased to breathe Death in 10 minutes	Syncope. P M Heart large and flabby lungs a good deal "congested"	Had inhaled CHCl ₃ before. Some of same chloroform had been used for another patient with out bad effects.
11	17	M	Amputation of finger, 5 minutes.	Dropped on gauze laid on face, 2 dr	P	He struggled for a moment then after a quarter of a minute the P ceased to beat countenance altered Action of heart had ceased and the sounds could not be heard. R. still continued, but became irregular weak and slow and at length ceased completely in space of ½ minute. At tempts made to restore R, and in 2 minutes again commenced but I did not return Death in 6 minutes, during stage of excitement.	Syncope (Snow) P M Vena Cava overfull of black blood.	Snow thinks an overdose was taken when the patient struggled.
12	36	M	Amputation of toe.	Handkerchief, ½ oz.		Anæsthesia complete. At close of operation no blood escaped when pressure was removed from arteries patient was in fact dying and in a short time expired A few inspirations were noticed after I had ceased at wrist.	P M Some venous congestion of lungs, heart flabby	Death probably due to way the CHCl ₃ was given (Snow)
13	F		Extraction of tooth.	Handkerchief	P	As she did not become insensible more CHCl ₃ was placed in handkerchief She drew one deep inspiration countenance immediately became pallid, dilatation of pupils, convulsive rolling of eyes, no P could be felt.	"Paralysis of heart by overdose.	The inspiration at the moment the fresh supply of chloroform was given probably induced intaking of a lethal dose (Snow) Pt. was sitting
14	48	M	Removal of too nail.	Inhaler About ½ dr	P & R	Anæsthesia complete Continued insensible after operation face becoming dark P small quick R laborious. After struggling for a minute became still R continued a few seconds after P ceased. Artificial R. produced no effect.	Probably asphyxia (Snow)	
15	F		Excision of eye ball.	Sponge. Small dose.	P	Probably fully under Died suddenly during operation.	Syncope.	"Vapour not sufficiently diluted" (Snow)

^a Consists of glass globe containing a sponge on which the chloroform was poured to saturation The globe was 4½ inches across, and the sponge filled one third of it.

DEATHS UNDER CHLOROFORM.

CASES FROM ROYAL MEDICAL CHIRURGICAL SOCIETY'S REPORT BETWEEN 1848 AND 1860 (continued)

1	2	3	4	5	6	7	8	9
No. of cases.	Sex.	Age.	Operation and duration of administration.	Method of administration.	P or R.	Symptoms occurring under anæsthetic.	Assigned cause of death.	Remarks.
15	F		Extraction of tooth.	Sponge and napkin.	* P	Died suddenly stretching herself out and frothing at the mouth at moment of death, countenance at same time becoming livid.	Syncope.	Operation seems to have been attempted several times at intervals unsuccessfully. Died when inhaling CHCl_3 for 6th time.
17	M			Sponge, 1 dr.	* R.	During stage of excitement, made a strenuous inspiration and this occurred several times until at length R. ceased entirely not. (No report of P.) Operation probably not commenced.	"Probably syncope."	
18	F		Amputation of finger.	Handkerchief, 1 dr		Operation probably completed. After CHCl_3 was discontinued face turned pale, and P and R. ceased.	Syncope. P.M. showed Pt. to be emphysematous.	
19	M		On testicle.	Cotton and folded towel. About $2\frac{1}{2}$ dr	P	Some struggling on breathing fresh CHCl_3 . Towel removed, but patient not being insensible, again applied. After a few inspirations P. ceased, face turned pale breathing slow and gradually ceased. Death in 5 minutes. Operation not commenced.	Cardiac syncope. Breathing returned for a time after the employment of artificial respiration. P.M. showed old standing disease of membranes of brain.	
20	M		Sounding for stone.	On lint.	P	Insensible, moaning. Countenance livid, eye vacant. Heart pulsation ceased. Made one deep gasp and was to all appearance dead. Artificial R. no result.	Syncope.	
21	M		Amputation of portion of hand.	Inhaler then napkin.	P	During operation hæmorrhage suddenly ceased, and he expired.	Syncope. P.M. Heart flabby some congestion of brain membranes.	See Snow p. 132.
22	M		Amputation below knee for scrofulous disease of ankle.	Lint and towel with sponge, laid on face. About $1\frac{1}{2}$ dr		Slight convulsive movement of eyelids, froth at mouth and he was dead. Operation not commenced. Death in about 1 minute.	Syncope—From commencement of administration to death only one minute elapsed.	Patient greatly debilitated.
23	M		On penis.	Chloroform, 1 dr		Died suddenly	Syncope.	
24	M		Extraction of teeth.	Handkerchief.		After extraction of some teeth she died suddenly in less than 1 minute from commencement of the inhalation	Syncope—Pt. was emphysematous.	The administrator was prosecuted for homicide but acquitted.
25	M		Removal of testicle.	Linen cloth. About $1\frac{1}{2}$ dr	P & R.	Fully under influence. During operation hæmorrhage from artery suddenly ceased. R. ceased almost instantaneously with heart's action, but one or two sigh like inspirations followed. With artificial R. there were several attempts at a natural R. Death after more than 7 minutes.	* Syncope (Snow) P.M. Fulness of veins—fibrinous clot in pulmonary artery	
26	F		Removal of impacted foreskin. (Cancer of urethra.)	Probably handkerchief, $10\frac{1}{2}$ dr		On completing operation the surgeon found that she had ceased to breathe. She was fully under anæsthetic. Death in 8 or 9 minutes.	* Syncope. Symptoms do not appear to have been observed.	
27	M		Ligature of arteries, aneurism in leg by anastomosis.	Apparatus.		Operation commenced. P. suddenly ceased as soon as skin incision was made. CHCl_3 removed but in a few seconds patient had ceased to breathe. With artificial R. the act of R. was performed several times and the circulation was thought to be returning but this was only due to appearance of face no pulse returned, but he quickly relapsed and died. Death in 5-10 minutes.	Syncope P.M. Venous engorgement.	
28	F		Extraction of tooth.	Sponge and handkerchief, 25 drops.		Only 4 or 5 inspirations. Operation not commenced. On being asked a question, answered in a thick and trembling voice. At same time stretched out her limbs face became bluish eyes haggard head and arms fell she was dead.	Syncope.	Was in sitting posture.
29	M		Lithotripsy	Snow's Inhaler.		Operation commenced, fully under Fresh CHCl_3 given as signs of returning consciousness appeared. Appeared to hold his breath. P. had then ceased, the heart sounds were still heard feebly. Made several further inspirations and then ceased to breathe. Artificial R. produced no result.		
30	M		Fistula in ano.	Handkerchief. About 1 dr		Not fully under operation not commenced. On applying fresh CHCl_3 he spluttered at mouth. CHCl_3 was removed, but he suddenly expired. Death in about 1 minute.	Syncope.	

DEATHS UNDER CHLOROFORM

CASES FROM ROYAL MEDICAL AND CHIRURGICAL SOCIETY'S REPORT BETWEEN 1848 AND 1860 (continued)

1 Reference.	2 Age.	3 Sex.	4 Operation and duration of administration.	5 Method of administration.	6 P or R	7 Symptoms occurring under anæsthetic.	8 Assigned cause of death.	9 Remarks.
31		M	Application of potassa fusa to ulcers.			Fully under When nearly completing operation a sort of catch in breathing on looking at him, mouth and eyes open and turned upwards breathing irregular face pale, and pupils dilated Artificial R. had no effect. "In a few minutes the man died	Probably syncope.	
32		M	Removal of malignant tumour of the thigh (12 minutes)	Inhaler		Fully under CHCl ₃ acted slowly During operation breathing became slow seemed to be sinking fast, gave one strong gasp, and then died.	Probably syncope.	
33	28	F	Application of nitric acid to sloughing ulcers.	Lint.		Operation not commenced During stage of excitement, a partial relaxation of the limbs took place, became insensible and pulseless.	Syncope.	
34		F	Tumour of face.	Compress.		Stage of excitement. During operation had cough; made a deep inspiration, then a convulsive movement of face and hand P and heart had ceased.		
35		M	For hemorrhoids.			Fully under Operation not commenced R. became embarrassed there was trismus; then the movements of heart ceased With insufflation, and then with electricity he breathed irregularly for 20 minutes There was however, no evidence of restored action of the heart. Death in less than 5 minutes		Patient suffering aneurism of aorta.
36	26	M	Removal of tumour near lip	Sponge. 5 dr		Fully under Operation commenced Became pale, R. suspended, sank into state of complete collapse Artificial R. produced no effect Death in about 4 minutes.	Syncope.	
37	43	M	Perineal section	Handkerchief About 1 oz	P	Fully under Operation not commenced Had slight convulsion; rallied and continued CHCl ₃ ; I became weak and ceased. Breathing did not cease before I Artificial R. restored a few natural R's but this did not continue	Syncope	
38	40	F	Strangulated hernia.	Lint. Less than 2 dr		Operation not commenced Struggled much commenced to breathe with loud rough stertor I was gone gave several inspirations, then ceased With artificial R. and galvanism gasped about 3 times After this no further signs of life	"Simultaneous deep coma and cardiac syncope"	
39	22	F	Application of actual cautery to canceroid sore	Inhaler About 2½ dr		Fully under Operation not commenced P became extremely weak and fluttering countenance dusky R. at long intervals with slight catching efforts All efforts at R. ceased about 2 minutes after 1st indication of failure I, however, as a very feeble flutter was felt occasionally for at least 2 minutes later	Syncope	
40	19	M	Extension of ankylosed knee.	Inhaler Chloroform, 1 dr		Probably not under influence Operation not commenced P became feeble and undulating trismus occurred R. became irregular face livid foamed at mouth Only once made feeble attempt at R. Death in less than 1 minute	Syncope.	
41	18	F	Lipoma on back.	1 dr		Fully under Operation commenced Fell suddenly forward on chest. Attempts made to restore her but in a few minutes it became evident that she was dead		
42	59	F	Attempt to reduce dislocation at shoulder	Sponge. 2 drs.	F R.	Respiration became stertorous, and immediately afterwards the pulse, which had hitherto continued pretty firm, became imperceptible respiration ceasing at same time. 'Galvanism applied some convulsive efforts of respiratory muscles, but no further sign of life about 6 minutes. Not commenced.	'Deep coma and cardiac syncope'	
43	45	F	Removal of cancer of breast.		P	After inhaling with little effect for forty minutes the chloroform took effect but the countenance changed and pulse ceased, after a few short laboured inspirations life became extinct Fully under More than 40 minutes	Cardiac syncope	
44	40	F	Removal of uterine polypus	Lint.	P	Pulse ceased to beat face was extremely pale; a slow respiration still continued but soon ceased. Fully under Time not stated.	Cardiac syncope.	

DEATHS UNDER CHLOROFORM

CASES FROM ROYAL MEDICAL CHIRURGICAL SOCIETY'S REPORT BETWEEN 1848 AND 1860 (continued)

1	2	3	4	5	6	7	8	9
Reference	Age	Sex	Operation and duration of administration.	Method of administration.	P or R.	Symptoms occurring under anæsthetic.	Assigned cause of death.	Remarks
46	18	M	Operation for phimosia.	(Not covering nostrils) 2 drs	P	Pulse suddenly failed, became imperceptible, countenance assumed a pale, leaden hue. With stimulus of cold water after three or four minutes, pulse again felt, and spontaneous respiration renewed. This improvement continued for ten minutes then pulse and respiration ceased together. Artificial respiration produced no effect. Complete insensibility. About 6 minutes.	Cardiac syncope.	
48	39	F	Removal of tumour of breast.	Rather more than 1 dr		Breathing suddenly ceased; became deadly pale. No pulse could be felt there were then two sighing efforts at respiration. Artificial respiration commenced within one minute, without effect. Commencing to inhale. One minute and a half.		
47	M		Reduction of dislocation of hip.	Apparatus (which mixed air with the chloroform).	P	Pulse ceased, became pale; the respiration continued but slow and irregular. Friction, ammonia, artificial respiration, the arms were raised and some pulsations were again felt. Appeared to answer questions but then fell back again into a state of syncope. Reduction effected. Complete anæsthesia. A few minutes.	Syncope	
48	13	M	Cleft palate	A compress held two centimetres in front of mouth	P	Pulse ceased, strange expression of face. With artificial respiration and cautery there were two or three efforts at respiration. Fully under during the operation.	Syncope.	
49	6	M	Amputation in thigh 13-14 n. n.	Snow's Inhaler 3 drs.	P & R	Pulse which was full and steady gave a few rapid irregular beats, then ceased, respiration ceased simultaneously, face became pallid and deathlike. Artificial respiration was followed by slight effort at inspiration. Stage of excitement 14 minutes.	Syncope.	
50	39	M	Introduction of catheter	Lint.	R.	Began to snore, then a long interval, breathing became feeble and was ceasing; artificial respiration then used, and after a few minutes it then recovered but again ceased. The pulse had continued to beat some little time after these symptoms, and after cessation of respiration. Fully under.	"Deep coma apnoea, syncope	
51	56	F	Amputation of leg 3 minutes.	Lint, in oil silk. 2 drs	P	Pulse suddenly ceased in femoral then several respirations which ceased but were renewed slightly with artificial respiration. Fully under. About 3 minutes.	Syncope.	
52	40	M	Excision of eyeball 5 minutes.	Snow's Inhaler	P & R	Respiration became feeble and sighing. With artificial respiration there was occasional breathing but this presently ceased. Pulse, when felt for after spasm subsided, was absent. Operation not commenced. Death during stage of excitement.	Syncope.	
53	29	F	For relief of facial neuralgia. A few seconds.	An Inhaler $\frac{1}{2}$ dr		Having inhaled 20 minims, she begged for more, began to inhale eagerly, gave a sudden start as if taken in some kind of fit. No further sign of life. Not fully under.	Syncope.	Was sitting up and inhaled 2 or 3 times before.
54	36	F	Tooth extracted? A few seconds.	Handkerchief. About $1\frac{1}{2}$ dr	P & R	Spoke and said "I am not over yet and immediately while yet speaking she gave a convulsive start, and with a stertorous inspiration and with the eyes and mouth open, sank to the floor. Artificial respiration was employed and after a short time there were a few spontaneous inspirations and it is said the pulse could be perceived at the wrist. Quite conscious. Death in about a minute. Operation not commenced.	Syncope.	Sitting posture. Had inhaled chloroform 4 times previously.
55	30	M	Removal of necrosed bone from finger 3-4 minutes.	Sponge in lint.		Raised hands and trembled. Kept spitting at the lint, appeared about to vomit. Suddenly he was violently convulsed, as if in an epileptic fit. The chloroform was at once discontinued and he was laid in a semi horizontal posture. The convulsion lasted only a few seconds. He began to breathe with effort, and to gasp irregularly. His pulse was almost imperceptible and intermittent. With artificial respiration he rallied and breathed without assistance. In a few seconds he relapsed and could not be recovered. Not fully under. Operation not commenced.	Deep coma and cardiac syncope	Sitting posture

DEATHS UNDER CHLOROFORM
CASES FROM ROYAL MEDICAL CHIRURGICAL SOCIETY'S REPORT BETWEEN 1848 AND 1860 (continued)

1 Reference.	2 Age.	3 Sex.	4 Operation and duration of administration.	5 Method of administration.	6 P or R.	7 Symptoms occurring under anæsthetic.	8 Assigned cause of death.	9 Remarks.
56	8	M	Excision of scapula. A few minutes.	First an inhaler, then lint.	P	After making one long, deep inspiration (from lint) appeared to pass into a deep sleep. A few seconds later, pulse began to beat very quickly, then ceased for two or three seconds, then beat rapidly several times and ceased. He continued to breathe for at least a minute longer. Respiration was ceasing, but continued, with cold water &c, for two or three minutes. Brandy poured into the mouth passed into œsophagus, but no effort to swallow. Artificial respiration produced some efforts at inspiration; but he did not rally. Under influence. Operation not commenced. Death in a few minutes.	Syncope.	
57	35	M	Amputation of thigh. A few minutes.	Lint not a large quantity.	P	On raising eyelid it remained retracted, eyes slightly turned up. No pulsation in temporal or wrist. The respirations had almost ceased. With cold water &c., respiration became better, in about 2 minutes a pulse was felt at the wrist. This continued with good respirations, 2 or 3 minutes. The pulse then failed, and then the respirations. Artificial respiration produced no effect. Fully under. Death in a few minutes. 10 minutes from the time on table till death but had inhaled in the ward 3 or 4 minutes before. Operation not commenced.	Syncope.	
58	17	F	Application of nitric acid to sores.	Snow's inhaler 1 dr.		The operation being completed moved as though recovering and was left. A few minutes later being noticed to be pale, was found pulseless and dead. Artificial respiration produced no effect. Fully under. Operation completed. Death in few minutes.	? Syncope.	
59	49	M	Excision of elbow joint. Two minutes.	Hollow sponge. About 1 dr.	P	Gasping respiration followed by slow convulsive movement of limbs. The pupils became dilated, and the pulse stopped. Not under influence. Operation not commenced. Death in about 2 minutes. Died suddenly.	? Syncope.	Sitting posture.
60		M	Extraction of teeth.				? Syncope.	Intemperate.
61	23	M	Plastic operation on forehead.	6 drs.		Great excitement with tossing about of limbs, followed by sudden collapse. Not fully under influence. Operation not commenced.	? Syncope.	
62	30	M	Removal of finger.	About 2 drs. used given in 30 minute doses.	R.	The chloroform caused a little cough at first which soon ceased and the stage of excitement set in. When nearly insensible he did not breathe freely and there was spasmodic action of the larynx, as if from repeated swallowing of saliva. Chloroform was discontinued and respiration had entirely ceased. No pulse could be felt. Artificial respiration and other means produced no effect. The heart's action continued for some time after the breathing and pulse had failed. Anæsthesia nearly complete. Operation not commenced.	? Asphyxia. P M. Frothy mucus throughout air passages. Lungs healthy. Heart substance healthy and firm, a little fat on external surface of left ventricle. Valves natural.	
63	11	M	To examine an injury of the foot, of some weeks' standing.	Cotton handkerchief.	P	The boy was much frightened and breathed irregularly at first. Fresh chloroform was added, and after 6 or 8 inspirations he became insensible. The handkerchief was given to the mother to hold and the examination of the foot commenced. Stertor set in, and the chloroform was discontinued. Pulse became imperceptible. Lips livid. Artificial respiration produced a few short inspiratory efforts. No return of pulse. Extreme insensibility. Death in ten minutes from the commencement of inhalation.	? Overdose leading to paralysis of respiratory and cardiac centres.	
44	40	F	ut					

DEATHS UNDER CHLOROFORM

CASES FROM ROYAL MEDICAL CHIRURGICAL SOCIETY'S REPORT BETWEEN 1848 AND 1860 (continued)

1 Reference	2 Age	3 Sex	4 Operation and duration of administration.	5 Method of administration.	6 P or R.	7 Symptoms occurring under anæsthetic.	8 Assigned cause of death	9 Remarks.
64		F	Extraction of tooth.	Handkerchief.		'Seized with alarming symptoms. Operation completed.		Sitting posture
65	8	M	Operation for strabismus.	Piece of lint. About 1½ dr used at 3 applications.	P	He flinched as the operation was commenced. More chloroform poured on lint. Face instantly became pale and pulse ceased. Up till this had been quite regular, 80 per minute. Incomplete anæsthesia. Death in ten minutes.	? Syncope.	
66	45	F		Handkerchief				
67	43	M	For reduction of subcoracoid clava dislocation.	Piece of linen rolled into cone. From 4-5 drs. used.	P	Excitement followed the fresh application of chloroform but soon passed off. Operation completed. Pulse and respiration regular when pulse suddenly stopped a few rapid, deep inspirations continued. Anæsthesia. Chloroform had been removed and remarks were being made by operator. Reduction effected.	? Syncope.	
68	7½	F	Foreble straightening of hip-joint.	Sponge. About 1 dr	P	Resisted when touched. On second attempt crying and struggling ceased. Circulation had stopped. Lungs continued to act for a few respirations. Incomplete anæsthesia. Operation not commenced.	? Syncope.	
69	16	F	Operation for strabismus.	Piece of folded linen.	P	She gave a shrick and became insensible. The operation was commenced. Face became livid. Pulse could not be felt; slight inspiratory efforts at intervals for a long time and movement of nostrils, for at least half an hour after cessation of pulse. Complete insensibility. Operation just commenced.	? Respiratory paralysis.	
70	45	M	To make incisions for extravasation of urine.	Inhaler 1½ drs. used	P	The addition of half a dram of chloroform produced insensibility and inhaler removed. Face became pallid. Pulse fluttered, and ceased. Respiration continued for one or two minutes. Anæsthesia. Operation completed.	? Syncope.	
71	28	M	Amputation of foot for an old injury	Inhaler 1 dr used	P	When about half a dram had been taken pulse suddenly failed. Face pallid. Inhaler removed. Gave a few gasps, passed urine and died. Not under influence. Operation not commenced.	Syncope.	Had been fully under influence for an hour and a half for a previous operation. Intemperate.
72	24	M	To apply nitric acid to syphilitic sores	Cone of lint covered with oiled silk. About 2½ drs. given at intervals.	P & R	Resisted the application of the acid. Struggling suddenly ceased. Face pallid. Pulse and breathing stopped. Artificial respiration produced a few inspiratory efforts. Imperfect anæsthesia. Application		
73	57	M	For delirium tremens, following a fracture of tibia and fibula involving the knee joint	Piece of lint. About ½ dr		tion commenced. Dead in twenty minutes. After two or three inspirations the man 'writhed' and fell back dead. Not under influence.	? Syncope.	Very intemperate.
74	50	F	To reduce dislocation of shoulder	"A simple compress."	R.	Reduction effected. Chloroform removed. Face became congested. Respiration failed then stopped. Death like pallor. No pulse. Artificial respiration and galvanism caused inspiratory efforts, but no return of pulse. Complete insensibility. Operation completed.	Respiratory failure and syncope.	
75		F	To relieve neuralgic pains	Upon a cloth.		The last dose given at nine o'clock. Found dead at ten. Supposed to be asphyxiated. Had taken it twice to insensibility on the same day.	? Asphyxia.	In the habit of taking chloroform, in this way, very frequently and in enormous doses. Very intemperate.
76	55	M	Perineal section for old stricture of urethra.	Inhaler. About 1 dr	P	Took chloroform quietly; breathing natural. Face turned pale, and pulse ceased. A few faint inspiratory efforts afterwards. None followed artificial respiration. Complete anæsthesia. Operation just commenced.		

DEATHS UNDER CHLOROFORM.

CASES FROM ROYAL MEDICAL CHIRURGICAL SOCIETY'S REPORT BETWEEN 1848 AND 1860 (continued).¹

1 Reference	2 Age.	3 Sex.	4 Operation and duration of administration.	5 Method of administration	6 P or R	7 Symptoms occurring under anæsthetic.	8 Assigned cause of death.	9 Remarks.
77	29	F	Extraction of tooth 4 minutes.	Handkerchief folded in a cone. About 1 dr	P	Forty drops sprinkled on the handkerchief produced excitement after 1½ minutes to 2 minutes inhalation Twenty more were added, and the excitement passed away I also good breathing calm; eye sensitive to touch Suddenly the head fell to one side, face became pallid, pupils dilated pulse ceased; she gasped a few times convulsively Artificial respiration and galvanism produced a few inspiratory efforts but no return of pulse. Partially under influence Operation not commenced. Death in less than four minutes.	? Syncope.	Highly nervous and hysterical. Sitting posture.
78	42	M	Excision of the elbow joint (following injury a month previously)	A piece of lint 2 drs, the second dram applied four minutes after the first.	P	At first breathing regular and pulse somewhat quickened, about one minute after the second dram was applied the man struggled and tried to raise himself; the pulse suddenly failed, breathing continued for some minutes, and the lips remained florid The tongue was immediately drawn forwards, artificial respiration and galvanism commenced, and continued for three quarters of an hour but of no avail Slightly under influence. Operation not commenced	? Syncope P M Heart and right lung healthy the left so infiltrated with tubercle as to render it almost useless for respiration.	
79	30	M	Operation for removal of necrosed portion of tibia. 6-7 minutes.	Inhaler About 2 drs	P	Took the chloroform well, breathing regular and even, as also was the pulse Operation commenced in 5 minutes, and a minute later the pulse, which was continuously watched ceased instantaneously the breathing continued unchanged for several seconds when the face became pale, and the respirations lower, and soon stopped Ammonia to nostrils, cold affusions, artificial respirations by compression of chest and by Sylvester's method, galvanism to cardiac region, and two needles passed into the heart produced no result. Complete anæsthesia Operation commenced Death in 6 to 7 minutes from commencing to inhale	? Syncope 1 M 23 hours after death Brain dark vessels congested especially those of the cerebellum 1 or 2 cardiacum contained a quantity of turbid yellow serum Heart mark of one needle about an inch above the apex the other an inch above this both in left ventricle which was partially contracted right not so valves healthy slight fatty deposit amongst fibres of right ventricle none on left side to the eye the muscular tissue of the heart was perfectly healthy lungs healthy slight congestion below and behind on both sides abdominal viscera normal but rather congested. The blood was universally fluid	Apparently a very healthy man.
80	28	M	Operation for fistula in ano 8-10 minutes.	Inhaler 1½ drs.	P	He breathed quietly for 6 or 8 minutes, and then struggled violently Had a sort of tonic spasm back curved so as to rest on his head and heels. The chloroform was suspended during this excitement. Pulse regular, good The inhaler was about to be re-applied, when the pulse in the temporal artery intermitted twice, and ceased. The body became ashy pale, patient gave 3 inspirations each shorter than preceding and breathing stopped, pupils natural. Cold affusion ammonia to nostrils Artificial respiration by Sylvester's method, and galvanism, were of no service No heart sounds could be heard. Partially under influence Operation not commenced. Death in 8 to 10 minutes.	? Syncope P M 48 hours after death Heart apparently healthy so far as muscular tissues are concerned rudely in colour; cavities dilated, and their walls thin Lungs universally adherent they contained some scattered tubercle and one small vomica. Liver large, pale fatty Kidneys natural	Not good health. Intemperate On Jan. 10, 1863 he had been operated on, under chloroform, for an exostosis of the femur, without any ill effects from its use.

DEATHS UNDER CHLOROFORM

CASES FROM ROYAL MEDICAL CHIRURGICAL SOCIETY'S REPORT BETWEEN 1848 AND 1860 (*continued*)

1	2	3	4	5	6	7	8	9
Reference.	Age.	Sex.	Operation and duration of administration.	Method of administration.	P or R.	Symptoms occurring under anæsthetic.	Assigned cause of death.	Remarks.
41	27	M	Operation for phimosis.	Weiss apparatus.	P	Was a little nervous, pulse good. In about 4 minutes face became slightly congested, and pt struggled to rise in bed. Face became dusky and lips blue. Cold affusion to face and compression of ribs caused a deep inspiration but pulse could not be felt. Artificial respiration and other measures were tried. He breathed at intervals several times but respirations became fainter, and at length ceased. Partially under influence. Prepuce removed.	? Syncope	He expressed no dread of chloroform but always had a great horror of it, and possessed an idea it would kill him.
42	14	M	Extraction of tooth.			The patient was seated. He had syncope, and died.	Syncope	Sitting posture.
43	60	M	Reduction of dislocated hip 20 minutes.	Apparently on handkerchief.		Very violent efforts necessary for reduction, which was at length accomplished, when symptoms of "cerebral congestion" set in. "Never fairly under influence." Operation completed. Death in 20 minutes after the chloroform was removed.		
44		M	To reduce a dislocated humerus.		P	Took chloroform readily. Just as reduction was effected pulse stopped and after a few gasps, breathing also. Artificial respiration and galvanism produced no effect. Under influence of chloroform operation completed.	? Syncope.	
45	22	M	Amputation of leg at the lower third for disease of the bones of the foot.	Piece of lint "A considerable quantity"	P	The man moved the limb slightly and more chloroform was applied when he suddenly became deathly pale and his pulse ceased. "Aspect like that of a corpse. The tongue drawn forward, and artificial respiration by compressing the chest kept up for half an hour. Efforts at intubation occurred at intervals of from thirty seconds to a minute for eight or ten minutes after the pulse had ceased—some of them of considerable force—so as to lead to a hope of a favourable issue but no return of pulse or of colour to the face. Once or twice with intubation, a movement of the neck and right arm. Galvanism produced no effect beyond a quivering of the muscles. Anæsthesia produced without anything unusual occurring. The limb was removed and the arteries were being tied.	? Syncope. P M twenty hours after death. Blood perfectly fluid like thin tar and water. Heart flabby moderately full no coagulum valves healthy muscular substance healthy both to the eye and under the microscope. Lungs contained more air than usual everywhere crepitant, did not collapse much on opening chest, no tubercle anywhere. Liver and kidneys normal.	Patient very wasted and debilitated from disease supposed to be phthisical.

CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS

1	27	M	Avalulsion of great toe-nail. 2 or 3 minutes.	On towel.	P	The first two doses (? amount dropped on towel) produced no effect the third produced insensibility. The operation took but a minute or two and was completed but patient never returned to conscious state. Colour of face changed and pulse failed. Artificial respiration for $\frac{1}{2}$ an hour was useless.	Syncope. "The chloroform given in a dangerous way (open towel) instead of an inhaler."	Was suffering from cardiac disease as shown by P M. Had taken chloroform repeatedly on previous occasions.
2	?	M	Avalulsion of toe-nail.		?	?	?	?
3	?	M	To quiet fit of mania.	On lint.	?	?	? Syncope. Congestion of lungs.	Lunatic subject to violent fits of mania. In the last stage of exhaustion. Had often taken CHCl ₃ before.
4	40	M	For circumcision.	Napkin $\frac{1}{2}$ ozs.	R.	Stertorous breathing followed by failure of R. Measures resorted to were artificial R., galvanic battery to chest and neck. Inflation of lungs by tube and bellows rubbing limbs.	? Syncope. P M. Heart fatty. Lungs congested with apoplectic clots. Oedematous and less crepitant than usual.	

DEATHS UNDER CHLOROFORM
CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (*continued*)

1 Reference.	2 Age	3 Sex	4 Operation and duration of administration.	5 Method of administration.	6 P or R.	7 Symptoms occurring under anæsthetic.	8 Assigned cause of death.	9 Remarks.
6	42	M	For removal of lipoma on back 3 or 4 minutes	On single fold of thin lint. $\frac{1}{2}$ dra.	P & R.	Patient became excited, struggled and talked. This ceased and face became congested and breathing stertorous. On patient being turned over on left side breathing ceased suddenly. Artificial R by Marshall Hall's method and electro magnetism employed for 1 hour, but failed. No P or heart beat observed after R first ceased.	Failure of R. and heart action together. P M Lungs engorged with venous blood, heart large flabby, myocardium soft ventricles thinner than usual right side distended, left empty, blood fluid.	Patient a tall, stout, muscular man, inveterate drinker. Anæsthetic given at his own request, though dissuaded by surgeon. Chloroform quite pure.
7						When untoward symptoms came on artificial R resorted to contraction of heart kept up for $1\frac{1}{2}$ hours, and a few natural respirations obtained.		
8	24	M	For ingrowing nail.		P	After cessation of pulsations of heart patient made at intervals spontaneous inspirations and expirations.	? Syncope.	
9	40	M	For amputation of leg. Administration just begun.	Diluted.	P & R	Had scarcely made 4 inspirations when R and circulation were suddenly arrested, and so remained in spite of all means employed. [Surgeons objecting to chloroform being given and man wishing for it a small quantity at some distance from mouth was given.]	? Syncope.	Strong man. Leg crushed by fall from horse. Syncope at time of accident. Very nervous.
10		M	For operation for glaucoma. $\frac{1}{2}$ hour		R.	Sickness, the "anterior chamber of eye just opened filling with blood sudden fit, gasping &c. A crowd assembled round patient. Marshall Hall's method of artificial R. tried rubbed with ice for $\frac{1}{2}$ hour, P keeping good. At length I ceased.	?	Patient a strong and muscular man; the operation very trivial.
11	7	M	For tracheotomy for laryngitis			Patient seemed relieved by inhaling the CHCl_3 but no sooner was the tube within the trachea than he gasped and died. Artificial respiration was resorted to for 25 minutes cold water affusions and external stimulants. All with no effect.	? Asphyxia. P M Tissues of larynx infiltrated, general engorgement with marks of ulceration lymph puriform; epiglottis thickened and erect	Symptoms of laryngitis very urgent pulse 120, vital powers oppressed.
12	31	M	To induce sleep in delirium tremens.	Handkerchief.	R.	R impeded Chloroform suspended. Artificial R latent gave one deep breath and two slight ones. Other means resorted to were pulling out tongue, cold affusions rolling body on side, continued for 20 minutes with no avail.	? No P.M. allowed	Intemperate for long time.
13		M	Extraction of tooth	On handkerchief.	?	After extraction of tooth convulsive agitation set in which became violent, and patient expired. Restorative means used but not stated.		Sitting posture.
14			Extraction of tooth.					Sitting posture
15					R	Sudden embarrassment of R. and sudden dilatation of pupils	Suffocation. P M Lungs studded with tubercles and gorged with blood.	
16	32	M	Amputation of left leg for scrofulous disease.	Fold of bandage	P	Patient seemed to come rapidly under influence when suddenly sphincters relaxed, lips quivered and patient died. Breathing continued after heart ceased beating. Galvanism and artificial R. used to restore life.	"Fear, Debility, and Chloroform (Verdict of jury) P M Right cavities of heart filled with fluid blood.	Debilitated.
17	35	M	Passing catheter	3U (on lint)	R.	Operation about to be begun when patient ceased to breathe and animation seemed suspended. Galvanism and artificial inflation in turn employed but failed. Pupils dilated, lips livid.	Failure of R P M Pyelonephritis left kidney. Right kidney healthy, slightly enlarged, walls of bladder thickened urethra obstructed.	
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DEATHS UNDER CHLOROFORM
CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (*continued*)

1	2	3	4	5	6	7	8	9
Reference.	Age.	Sex.	Operation and duration of administration.	Method of administration.	P or R.	Symptoms occurring under anæsthetic.	Assigned cause of death.	Remarks.
9	50	M	For removal of internal piles.	Hollow sponge. 3½j nearly	P	While struggling continued some stertor appeared. In another minute full stertor face dusky and livid, without pallor. P ceased and R. became slower operation not begun. Measures adopted were Artificial R. slapping face and chest with wet towel blood letting from jugular vein rubbing limbs electro-magnetism.	Syncope. P.M. Heart loaded with fat, muscular substances thin and weak, walls of right auricle and ventricle in state of fatty degeneration, same cavities gorged with fluid blood.	Patient large, stout, very muscular abdomen prominent. Seemed given to drink. Arcus senilis P and R. natural.
20	8	M	For plastic operation for deformity caused by burn on chin.			Just before conclusion of operation patient fainted. Measures employed were artificial R. then warm bath and galvanism. Was recovering from CHCl ₃ , when bad symptoms came on.	Paralysis of heart. P.M. appearances nil	
21		M	For reduction of fractured ankle					
22	36	M	For putting stiffened leg in splint in case of diseased hip-joint.	3jss. Snow's inhaler	P	After inhaling for 1 minute had violent shaking fit. Inhaler was removed, and he became calm. CHCl ₃ again given when at rigid stage and was trying to raise himself muscles relaxed rapidly he fell back became pale breathing laboured and I hitherto good stopped. Measures adopted were artificial R. (for 1½ hours) galvanism acupuncture	? Syncope P.M. Heart large, cavities full of fluid blood loaded with deposit of fat Liver kidneys and brain much congested.	
23		M	For removal of two cysts—one on lid, other on tongue	3j On lint.	P	On inhaling patient became excited when convulsions ceased fell into collapse had 3 violent fits of sneezing and heart ceased beat breathed several times at long intervals	Syncope.	Patient a feeble subject.
24	5	M	For removal of left testis for malignant disease. 4 minutes.		P	Soporose breathing commenced, pulse became feeble chloroform withdrawn but P rapidly failed and in 20 seconds ceased beating. Patient made 8 or 10 regular and 2 or 3 irregular respirations and inspirations after heart ceased. Cold water fresh air Marshall Hall's method of artificial I ammonia to nostrils friction to extremities and galvanic current from spine through thorax to diaphragm. All these for 1 hour	? Syncope P.M. No trace of organic disease; blood fluid and organs generally congested. When heart ceased beating ventricles dilated valves quite healthy no fatty degeneration	Patient a fine muscular man.
25	32	M	For fistula in ano 10 minutes.	On lint folded on handkerchief. ½ oz. Not given in measured quantity	R.	Patient struggled violently raised him self on seat and stopped breathing. Window was opened. Marshall Hall's method of artificial R. and other methods tried.	Paralysis of R P.M. Heart and lungs found to be extensively diseased. This verdict was disputed as P.M. took place 16 days after death	Patient in excellent state of health, quite fasting before administration heart and lungs in excellent state.
26		F	For examination of shoulder joint.	Quantity small				Chloroform used of unexceptionable quality
27	16	M	Amputation of great toe for disease of bone. 5 minutes.	No apparatus to determine quantity	"			Patient said to be very healthy
28	40	F	For removal of tumour on lower jaw	2 dr (Is not quantity under stated?)	P	Before operation was finished patient became slightly conscious. After second dose she took one inspiration and pulse stopped suddenly. She gave three or four gasps, and in half a minute was dead. Every effort made to restore animation without effect.	P.M. Fatty degeneration of heart.	
29	17	F	For operation on sphacelated wound consequent on a fall.	2 dr Napkin.	P	Operation begun, after second dose took one inspiration and P ceased suddenly. Every effort made to restore animation with no avail	? Syncope. P.M. Heart feeble and fatty	Patient of nervous temperament and suffering from fatty degeneration of heart. Chloroform given very cautiously
30	21	M	For amputation for diseased knee	Snow's inhaler	R.	R. failed. P kept good. Larynx opened stimulant given Marshall Hall's method of artificial P kept up	Failure of R. P.M. appearances nil	
1	2	M	Fracture of leg					

DEATHS UNDER CHLOROFORM
CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (*continued*).

1 Reference.	2 Age.	3 Sex.	4 Operation and duration of administration.	5 Method of administration.	6 P or R.	7 Symptoms occurring under anæsthetic.	8 Assigned cause of death.	9 Remarks.
32	29	F	For removal of small tumour of gum (? epulis).			Died in an instant.	P Syncope.	
33	60	F	For reduction of strangulated umbilical hernia. 11 minutes	3i, 160 minims	P & R	Operation commenced and twice interrupted (1) by coughing and (2) by vomiting. At 4 minutes after the inhalation the operation about $\frac{1}{2}$ completed, was stopped, and patient became so feeble that restorative measures were used. In 4 minutes more, died.	Protrusion of stomach, together with previous great exhaustion. P and R failed till both ceased. Stomach completely strangulated and ruptured in the peritoneal coat and back of the cardiac pouch.	Patient corpulent, greatly exhausted, had vomited for 6 days, and had been constipated 3 days. Was operated on for strangulation 10 years before.
34		M	For amputation of finger		P	Died instantly. P ceasing and face becoming discoloured. Artificial R. and galvanism tried without success.	Syncope. P M Lungs un-healthy, heart fatty.	
35		M	For fistula in ano.		R	Convulsed. Allowed little fresh air, CHCl ₃ again given still convulsed, suddenly ceased breathing, usual remedies for resuscitation.	Apnoea (probably) but would seem from symptoms to have been syncope.	
36		F		1 dr Handkerchief.	R.	Head was observed to fall on one side and the breathing ceased suddenly.	Syncope.	A nervous hysterical woman.
37								
38								
39	38	F	Vesico-vaginal fistula.	Inhaler 3iiss-iiij	P	Suddenly seized with spasm of respiratory and other muscles. P failing though heart beating. Artificial R., galvanism and cold affusions used in vain.	Syncope P.M. Heart flabby and fatty	Weak, irritable and nervous, had had 9 children and 1 miscarriage at end of 3rd month. From end of last confinement had suffered from incontinence of urine.
40		F	For removal of tumour at back of neck.			Operation skillfully performed but insensibility protracted. At end of $\frac{1}{2}$ hour limbs moved spasmodically, ending in convulsion and death.	P Syncope.	
41	41	M	For excision of joint (right arm).		P	Pulse became feeble galvanism and other remedies applied for $\frac{1}{2}$ hour with negative result.	P M Heart fatty and weak in structure.	
42		M						
43		F	For fistula 7 minutes.	2 dr	R. & P	Patient struggled slightly. After operation consciousness did not return and R became slower and ceased in 3 minutes. Measures adopted were cold water in face, sal volatile, galvanic apparatus and Marshall Hall's method to procure artificial R.	Cessation of R. apparently, but medical opinion inclined to rank it under heart failure. P.M. Heart fatty flabby, and deformed, walls of left ventricle very thick, of right very thin. Liver enlarged pressing upwards against lungs. Lungs very small, gorged with blood and with black patches, showing death from chloroform.	Patient large and well made, seemed to have no heart disease, but suffered occasionally from indigestion.
44	16	F	For operation on bare lip 5 minutes (about)	(1) By inhaler, with no effect. (2) on lint. Patient seated in chair	P	Before complete insensibility, pupils dilated rapidly patient fell back, became pale and lips bluish. Artificial R. tried for $\frac{1}{2}$ hour with no effect.	Syncope. The pulse was not felt continuously but occasionally. The coroner's opinion at inquest was that continuous watching of P might have saved life of patient. The operator Mr Gay, considered immediate cause of death to be palsy of involuntary muscles (see letter, <i>Ibid</i> p. 578)	Heart considered sound. Sitting posture.

DEATHS UNDER CHLOROFORM
CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (*continued*)

1	2	3	4	5	6	7	8	9
			Operation and duration of administration.	Method of administration.	P or R.	Symptoms occurring under anæsthetic.	Assigned cause of death.	Remarks.
11			For passage of catheter.	4 drs.		"The reporter thought the man had fainted. It was not the usual congestion." Died in an instant, 20 ozs of blood were taken from arm as chloroform restorative.	Syncope.	Perfectly healthy.
12	F		Extraction of teeth.			After 6 or 8 teeth had been extracted patient ceased struggling—whole system became relaxed and appearance death like. Efforts for resuscitation made for 5 hours which proved unavailing.	Syncope. Inque and P M held but result not known.	Sitting up.
13	M		For removal of tumour affecting nasal region. 3 minutes.	Towel.	R.	Profuse hæmorrhage. R. became very low. Artificial R. resorted to (Sylvester's method) succeeding for a while but in 23 minutes respiration ceased entirely.	"Apnoea from effects of CHCl_3 and loss of blood." P.M. Heart and lungs healthy. Lungs congested with blood in patches. fluid blood on both sides of heart. Liver and kidneys gave signs of death from suffocation. "Died from the effects of the vapour."	
22	F		For removal of tumour of urethra.					A question arose as to the quantity administered to patient on a similar occasion two years before, and the absence of books of reference in such cases in the hospital. The jury expressed an opinion that proper case books for reference should be kept in the hospital.
14	M		Avulsion of great toe-nail.				Fatty degeneration of heart.	
15	F		For extraction of tooth.	Napkin.	P & R.	Only slightly under after operation face became livid jaws clenched breathing arrested patient died.	Syncope.	Sitting posture. When examined before-hand no trace of heart disease.
16	M		Amputation of leg.	Napkin.	P	Patient never fully anæsthetized during operation screamed out then signs of falling circulation came on, and death ensued in 10 minutes. Methods resorted to were cold affusions ammonia, drawing forward tongue, artificial R. and galvanism.	Shock. Doubtful whether CHCl_3 exerted any influence. P.M. Heart healthy. Lungs congested. Brain very large and well developed (60-80 oz. avd.). Syncope.	No blood in state of heart appeared to forbid use of chloroform.
17	M		Removal of bone from right foot. 2 to 3 minutes.	Snow's inhaler. 40 minutes.	P	P suddenly became imperceptible. Pupils not dilated and breathing natural. Inhaler removed. R. became deep and sobbing and tongue protruded between teeth. No return of P., but R. continued 1 minute after P. ceased. Restorative measures were—Cold douche, brandy injection per rectum, solution of ammonia on lint to nostrils galvanism (forceps not needed as tongue did not fall back), artificial R. for half hour.	Syncope. P.M. Lungs healthy. Right more congested than left. Ventricles contracted and empty auricles with blood valves and muscular tissue healthy. Br microscopical examination ultimate fibres free from oil globules and striæ well marked. Walls of left ventricle slightly hypertrophied with dilatation Aorta healthy.	Patient healthy looking. By examination nothing to contraindicate use of CHCl_3 .
23	M		For cauterization of sloughing sore on penis.	Inhaler 2 drs in separate doses of 1 dr each.	P	After inhalation of first dose holding his breath and trying to avoid the vapour (which was diluted however) so that much was wasted. After he had spat second dose given but he struggled so much that P. could not be watched continuously. Sudden pupils became widely dilated and P. ceased. On removal of inhaler he drew deep gasping breaths for $\frac{1}{2}$ minute. Restorative measures cold splashings Marshall Hall's method of artificial R., and after by Sylvester's method, brandy injection, galvanism, friction.	Syncope. P.M. Heart of normal size, ventricles partially dilated and both with fluid blood. No valvular disease. No fatty degeneration.	Patient healthy looking. Chloroform given by his own desire.

DEATHS UNDER CHLOROFORM
CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (*continued*)

1 Reference	2 Age	3 Sex	4 Operation and duration of administration.	5 Method of administration	6 P or R.	7 Symptoms occurring under anæsthetic.	8 Assigned cause of death.	9 Remarks.
54		M	For amputation of leg for gun shot wound. 15 minutes	Sponge. $\frac{1}{2}$ oz.		Died 5 minutes after untoward symptoms set in.	P.M. Lungs and heart quite healthy	Had taken CHCl_3 in larger quantity before.
55	13	M					Syncope.	
56	2		For removal of finger 5 minutes.	On lint. 30 drops.				
57			For reduction of luxation of head of humerus.		P	After the reduction was completed it was perceived that the P at the wrist was gone. All the usual means resorted to in vain.	Syncopa. No P.M. permitted.	
58		M	Cataract.			Operation had just been completed when patient was observed to change colour, and in spite of the use of galvanism and other nervous stimuli he expired.	Syncopa. P.M. The heart was found in a very soft and fatty condition. No morbid sound had been heard previously by auscultation.	Had twice before been under CHCl_3 without bad effect.
59		F	For extraction of tooth.	Upon naphin 50 minims in two doses.	P	After extraction of tooth there was poenlarity in R which almost at once ceased and on feeling at wrist there was no P. Artificial R without effect.	Probably syncope characterised by spasm of left side of heart. P.M. Nothing abnormal. Left ventricle of heart firmly contracted, and cavities on left side empty on right side auricle and ventricle moderately distended, and there was no clot.	Sitting up. The patient had taken a larger dose of chloroform on a previous occasion with no ill effect.
60		M	For avulsion of nail	Handkerchief	P			Patient an apparently healthy man.
61	41	M	To facilitate catheterising 2 or 3 minutes.		P & P	I lips became blue, jugulars distended P and R ceased. 1 finger passed down epiglottis, deep inspiration vein of neck opened and 1 oz. blood let, then another inspiration. Tracheotomy artificial R, stimulation of diaphragm by induction apparatus, cold affusion, electricity to region of heart and acupuncture of heart. These measures revived action of heart for short while but it soon ceased.	Syncopa. No P.M. account furnished.	Was suffering from oedema and albuminuria following renal lina.
62								
63	11	M	Lithotomy		P & R.	P and R. ceased at same moment.		
64		M	For reduction of dislocated thumb. 3 or 4 minutes.	1 dr	P	P suddenly ceased beating, and in a moment patient was dead.		Patient strong and healthy. Was said to have been compelled to take CHCl_3 against his will.
65	15	M	For removal of necrosed bone from stump of amputated thigh.	2 to 3 dr	P		P.M. Right side of heart loaded with dark-coloured blood, and lungs highly congested.	
66	20	F	For extraction of teeth.	Sponge. 1 dr (in three portions).		After inhaling first two portions, three teeth extracted. Consciousness not lost. Remainder then given. Remaining teeth extracted. Sudden pallor R ceased, then P. Congestion of capillaries about neck and upper portion of chest pupils dilated. Measures adopted were External stimulation artificial R. and galvanism for $\frac{1}{2}$ hour with no effect.	Syncopa.	Sitting posture. Had taken CHCl_3 for extraction of 6 teeth 2 days previously.
67		M						
68		F	For strabismus.	1 $\frac{1}{2}$ drs.	P R.	Insensible and pulseless breathed heavily at intervals. Pupils dilated and R. ceased. Artificial R. resorted to, but death took place in two hours.	Syncopa. Cessation of R.	
69	8	M	For strabismus.			Died before commencement of operation.		
70		M	For operation about thigh.		P		Inhalation of chloroform	

DEATHS UNDER CHLOROFORM

CASES BETWEEN 1867 AND 1891 FROM PUBLISHED RECORDS (continued)

1	2	3	4	5	6	7	8	9
Case	Operation and duration of anaesthesia	Method of administration	P or R	Symptoms occurring under anaesthesia	Assigned cause of death	Remarks		
111 M	For removal of ligature after removal of diseased testicle. 5 to 7 minutes.	Towel cone. 1 dr.	P & R.	After having passed into second stage suddenly became stereotyped, underwent spasm (opisthotonic) for about 1 minute, and ceased to breathe. Efforts to restore action of heart and lungs failed. Means employed were. Cold effusion drawing out tongue, artificial R., ammonia to nostrils and heart, galvanism.	Syncope. Paralysis of heart. P.M. Kidney congested measured 7 inches in length by 4 in width, resembling larger red kidney described by Bright. Slight accumulation of fat over posterior diaphragm and on surface of heart. Brain effusion between dura and pia mater and between latter and arachnoid. Cessation of heart's action may have been caused (1) by convulsion causing effusion on brain—convulsion due to blood charged with excrementitious matter (2) overloaded blood charged with CHCl ₃ acting on heart.	Had twice before taken CHCl ₃ for removal of testicles large doses, 20z and 14oz. On second occasion was suffering from "Dengue."		
112 F	Examination of uterus to elicit	2 dr.	R.	Before examination could be made patient ceased to breathe and died.	P.M. Heart liver and kidneys somewhat fatty. Lungs "hypostatic congestion."	Patient was stout. Chloroform was carefully administered.		
113 M	For operation on external and inguinal hernia. 25 minutes (about).	SNK. Lankerscheil. 1½ ozs.	R.	Vomited fluid entered into wind pipe (aspiration) choked, and turned black in face. Position of patient changed ammonia and other restoratives given but death took place in very short time ("less than 2 minutes" according to one account).	Asphyxia.			
114 M	For operation on knee joint.		P.	After completion of operation, P. suddenly ceased to beat. Artificial R. for an hour and other means employed without effect.	Syncope.			
115 M	Lithotomy.	Napkin folded conically. More than 1 dr.		Operation just begun for which little more CHCl ₃ given. Patient made one or two R.s when condition became critical. Measures adopted were. Cold effusions spanking striking chest, pressing a dome, leverage over for artificial R. All with no avail.				
116 M	For disarticulation of elbow on pyrexia.	Towel.	P & R.	Lividities cessation of P and R. Measures adopted were. Drawing forward tongue artificial R. (Marshall Hall's method) for 1½ hours, ammonia to nostrils galvanism through thorax and other parts.	"Syncope" P.M. Heart 1½ oz., walls bloodless tissue easily torn, fatty degeneration lungs in itself congested liver fatty kidneys congested brain effusion of blood on dura mater little serum in lateral ventricle. Asphyxia.	On last admission presented usual appearance of having been on debauch.		
117 F	For removal of wart about vulva. ½ minute.	In compress (quantity small).	R.	Exhibited symptoms of asphyxia. Restorative efforts used unremittingly without success.		Patient had taken CHCl ₃ successfully three weeks before for same operation.		
118 M	Removal of cystic tumour of neck.		P.	Patient seized with violent exclamation while large vein at bottom of ear poured forth much blood. Deligation of vein difficult because of convulsions but vessel having been secured and wound being dressed, and chloroform removed some minutes P. at wrist opened and patient died after artificial R. for 1½ hour.	Syncope. M. Broca thought the air in veins caused death, but this no confirmed by P.M.	Patient found to have been subject to epilepsy.		

DEATHS UNDER CHLOROFORM
CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (continued)

1	2	3	4	5	6	7	8	9
Reference.	Age	Sex	Operation and duration of administration	Method of administration	P or R	Symptoms occurring under anæsthetic.	Assigned cause of death.	Remarks.
79			For ligature of external iliac artery for traumatic femoral aneurism.	Napkin.	P	P at wrist suddenly imperceptible, R. feeble, face purplish. Measures adopted were drawing forward tongue, cold affusions, ammonia to nostrils, electricity and artificial R. with no avail. Heart's action seemed to have stopped before R. entirely ceased.	? Syncope P M Blood in veins and in heart quite fluid almost black. Many bleeding points in section of brain and medulla oblongata. Pia mater congested. Other appearances healthy.	
80	65	M	Cancer of colon.				P M Cancer of colon, chloroform, ilious, &c.	
81			Extraction of tooth.			After operation patient rallied for a while and then expired.	Syncope	Sitting posture.
82	28	M	Amputation of finger	Handkerchief 1 dr In 3 doses of 20 minims.	P	Became violently convulsed and P ceased.	Syncope Convulsions Fatty degeneration of heart P M Tubercle at base of brain Heart soft and fatty Liver heavy and soft.	
83	12	F	Operation for necrosis of lower end of tibia.	Folded towel 1 oz.	P	Deadly pallor twitching of muscles about mouth; eyes rolling up; pupils dilated, breathing stertorous; P at wrist imperceptible. Measures adopted were—drawing forward tongue applying ammonia to nostrils pouring whiskey down throat cold affusions. As heart's action could not be heard artificial R (Marshall Hall's method) employed, with no effect.	Syncope P M Heart healthy in texture, blood both sides, with few clots on each right ventricle soft and flaccid left, rigidly contracted. Lungs congested, right with black blood. At inquest most searching enquiry made.	Had taken CHCl_3 (1½ oz.) earlier for tions of sinuses & untoward effects.
84	53	M	Tying vessels in out hand.		P	P nearly imperceptible lips pale; face livid; R distinct though irregular. Tracheotomy performed. Artificial R set up result 2 or 3 hurried Rs but no return of breathing or circulation. Artificial R kept up ½ hour.	Chloroform P M. ? Syncope Very violent spastic contraction of heart in subject weakened by loss of blood.	Hand had been with pieces of porcelain, but much and patient anæmic.
85	26	M						
86		F	Teeth extraction.				No inquest coronor being satisfied that CHCl_3 had been administered properly.	"Sitting up"
87			Secondary operation on eye.				No inquest coronor being satisfied that CHCl_3 had been administered properly.	
88			Operation on eye.					
89-90-92-93								
91								
95	35	F	Extraction of teeth	Sponge. 2 dr (hardly used)		After 3 or 4 inspirations R ceased; no P. Artificial R. and stimulating applications to heart and extremities to no effect. 1 or 2 inspirations after bad symptoms appeared.	No P.M. allowed.	
96			For fistula		P			
97			Removal of left eyeball.		P P		? Syncope. P M showed heart very diseased.	No symptoms of disease before tions of CHCl_3 .
98			Surgical operation.				Diseased state of heart.	CHCl_3 given duo

Lecture

ON

CERTAIN BRANCHES OF OPERATIVE SURGERY

BEING THE SECOND HUNTERIAN LECTURE FOR THE SESSION 1892-93

Delivered before the Hunterian Society on Feb 22nd, 1893

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MR. PRESIDENT AND GENTLEMEN,—When I was invited by the President of this Society, in the name of the Council, to deliver the second of the recently established Hunterian Lectures for the current session, I felt that my long connexion with this Society in various capacities rendered it obligatory on me not to decline the invitation. Moreover, the opportunity was thus afforded to me to utilise a small portion of my stock of still unpublished material, and I have, therefore, selected as my subject certain branches of operative surgery which admit of illustration from my own experience and from cases which have been under my care. When I look back to the time when I held the office of house surgeon to the London Hospital, a period of more than thirty years, and compare the state of operative surgery in that institution and at that time with its state now, the progress which has been made seems little less than marvellous. The surgical staff, consisting of three surgeons and three assistant surgeons, operated on one regular operating day (Wednesday afternoon) and held consultations on important cases on the same day. The operative surgery of the hospital then consisted mainly of amputations, the relief of strangulated hernia, if possible, without opening the sac, on which great stress was laid, the ablation of external tumours, the occasional ligation of an artery or nevus, tenotomy, colotomy in the lumbar region, lithotomy and the removal of carious and necrosed bone. Mr. Luke was the great advocate of Petit's operation in hernia, and his papers in the Royal Medical and Chirurgical Society's Transactions show that he met with great success, all the more, perhaps, because he did not spend much time over taxis. When he had to open the sac he would do so by a small incision over the neck to relieve the stricture at that part, and then, if possible, reduce the gut without further exposure. So far as his operations went, Mr. James Luke was one of the most skilful and neatest of operators and it was said of him by Mr. Nathaniel Ward, a surgeon of great capability himself, that "Mr. Luke would have operated well with a fire shovel." Lithotomy was not in favour, but a former President of this Society, Mr. Thomas Bilzard Curling, who was a sound, scientific and enterprising surgeon in his day generally on the watch for new but safe procedures, adopted it now and then. It will be remembered by former students of the hospital that in the performance of lateral lithotomy Mr. Curling always used the old fashioned gorget, a selection which prevented his operations from competing in elegance with those of his colleagues, Mr. John Adams, a very skilful lithotomist, and Mr. Critchett, who was distinguished for coolness and neatness in all that he undertook. Mr. Critchett was rather partial to Allarton's operation for stone in children when practicable and always kept pace with the advances in operative surgery. On more than one occasion he ligatured the main trunk of an artery for hæmorrhage from a distant but not readily accessible branch. One of his cases was a ligation of the superficial femoral for hæmorrhage from a compound fracture of the tibia and fibula. When he resigned his appointment as surgeon to the hospital to devote himself exclusively to diseases of the eye, general surgery lost a very able exponent.

Excision of joints was quite in its infancy and it was an event when in a theatre crowded with students Mr. Curling performed excision of the elbow joint in January, 1858.¹ Soon

afterwards Mr. Critchett excised the knee in the case of a boy. About the same period Mr. Curling undertook ovariectomy, I believe for the first time, at the London Hospital. Spencer Wells had only just begun to operate, and ovariectomy, whose mainstay in the metropolis had been Baker Brown, had scarcely emerged from its probationary and apologetic stage, for the mortality was high. "Between 1852 and 1856" says Mr. Greig Smith, "Baker Brown operated nine times, with seven deaths, and this mortality checked him for four years, when he began a career which, but for its untimely and unfortunate termination, would probably have done much for ovariotomy."² In point of fact, abdominal surgery in all its branches, cranial surgery, spinal surgery and thoracic surgery have been almost entirely created or revived during the last thirty years, and so great has been the extension of operative measures that the five surgeons and four assistant surgeons now comprising the surgical staff of the London Hospital have each their own day and hour for operating. As consulting surgeon to this institution I have never received any notice of consultations, for there do not appear to be any, but I receive regularly notices of operations and occasionally lists of the operations of a single surgeon with between ten and twenty items for an afternoon, many being procedures of the first magnitude, including two or three abdominal sections, radical cures of hernia, ligation of large vessels and perhaps the removal of a "fore-quarter"—an operation recently imported from France, and which one would rather have expressed otherwise. In addition to the increase in cases suitable for operation, the surgical staff of the hospital enjoy one great advantage over their predecessors. Three years ago it was discovered that the drainage of the hospital and the sanitary condition generally were most seriously defective, and £7000 had to be expended in remedying the defects. There can be no doubt that these defects have been responsible in past years for the loss of cases after operations which would otherwise have recovered and for the prevalence of septicæmia and pyæmia at the London Hospital.

The rapid growth of operative surgery in our time has been due, as we all know, in the first place to the introduction of anæsthesia, by which the dread of the knife has been largely removed and the comfort and convenience both of the patient and the operator have been secured, and, in the second place, to the general acceptance of principles of antiseptic and aseptic surgery or, in other words, surgical cleanliness and drainage, by which the rapid healing of wounds is favoured and the supervention of local and constitutional complications, infective inflammations, erysipelas, septicæmia and pyæmia prevented. The discovery of the part played by micro-organisms in the processes of disease, the improvement in surgical instruments and appliances the more speedy and certain methods of arresting hæmorrhage, the perfecting of the details, or technique, as it is called of individual operations, the more efficient methods of diagnosis, more especially through the illumination of cavities previously hidden from view have all contributed to stimulate the invention and inflame the ardour of surgeons, and we are constantly hearing of new procedures for the cure of deformities, the removal of diseased organs and tissues, and for repairing the effects of accident. Hence it is that one of the chief snares which the surgeon of the present day has to avoid is the danger of being too

owing to the circumstance that a student who was present wrote a poem on the event called *The Lay of the Resection* under the nom de plume of Innocent Bohn. As the lines faithfully rendered Mr. Curling's observations I hope I may be pardoned for quoting them—

This silence for great Thomas has turned him round to speak—
This operation as you know was planned for Thursday week.
Mass Thomme propose—twice cup and lip there 'very old a slip alas!
So it was here the patient's arm was seized with erysipelas
Small matter since the thing is done the annoyance of delay
But of the operation I've a word or two to say
Report has been resection here is put upon the shelf
It's scarcely true—some years ago I did the thing myself
Nor would my colleagues ever refuse to operate forsooth!
He glances at Jacobus well! I hope he tells the truth.
Besides we're pupils of John Scott, and tis our higher praise
To save a joint, than cut it out, and bear away the bays!
And then it makes a difference whichever is the joint meant,
Whether tis proper to excise or smear it o'er with ointment
Excision of the elbow is objected to by few I see
Excision of the knee must still be held to be *sub judice*
The greatest difficulty is to make a fit selection
That done not one of us denies approval to resection."

Mr. James Luke

† The bays had reference not only to the laurel crown of the victor but to a piece of red cloth which was always placed under the part to be operated on. This objectionable and germ holding baize has now given place to mackintosh.

² Abdominal Surgery, p. 125.

¹ At the conclusion of the operation Mr. Curling made some remarks on excisions which embodied the principles of conservative surgery. The substance of these remarks has been impressed on my memory.
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active, of doing too much rather than too little, whilst a do-nothing and temporising policy was the special temptation of former times. Mr Curling informed me that when he was assistant surgeon to the London Hospital he used constantly to supply his senior colleague with cases for operation and frequently suffered from the mortification of seeing such cases discharged from the wards without relief. Case after case even of necrosed bone—readily removable—met with this fate. The difficulty now is to restrain the surgeon from operating in unsuitable cases. When any new procedure is introduced it at once becomes necessary for every young surgeon to perform it as soon as possible if he is not to lag behind in the race for surgical honours. What a rush there was to do Ogston's operation for knock knee when it was first introduced. Every surgeon was envious of Ogston and was sorry that he had not thought of the procedure himself. Yet after a brief but not inglorious career, for there was much merit in the expedient, it was laid aside for the safer method of McEwen, and some, perhaps, who were loudest in its praise may have regretted that they ever performed it.

Another cause of the multiplication of surgical operations has been the increase in the number of surgical specialties. There is scarcely any organ in the body which is now left in the hands of the former tyrants of the medical world—the fellows of the Royal College of Physicians of London—for almost every organ and every system of tissue in the human frame is cultivated by a surgical specialist. The office of every specialist must be magnified—his domain must be extended to its utmost limits. "Diseases of the throat," for instance, receive a generous interpretation from the laryngologist and from the suffering public and include all sorts and conditions of maladies affecting the miscellaneous structures between the base of the skull and the diaphragm. New diseases and new ramifications of old disease are discovered by the specialist and new instruments are invented for their removal. Some years ago Dr Clifford Allbutt favoured the profession with a graphic description of the treatment which the long suffering uterus, and especially the cervix uteri, had to endure, and a few weeks ago, in his Bradshaw Lecture, Mr Christopher Heath was endeavouring to reduce the diseases of the nose to their lowest denomination. In the treatment of clubfoot there appears to be a danger that the safe and efficient operation of subcutaneous tenotomy which has conferred lustre on the name of Stromeyer, will be set aside for radical operations of doubtful value. Even the ear has not escaped the prevalent infection. Operations are now performed for the entire removal of an unperforated membrana tympani with the malleus, the incus and even the stapes.

The operative treatment of cancer, which has been extending itself in recent years, sometimes to the advantage and sometimes to the detriment of the individual patient, has been marvellously supported by the theory that cancer is only a local disease, at least in the first instance, as well as by the discovery of a "precancerous stage of cancer." No one can deny that there is and must be such a stage. The coming cancer does undoubtedly sometimes cast its shadow before, as exemplified in those cases of cancer of the breast which are preceded by eczema of the nipple as described by Sir James Paget.³ The difficulty lies in recognising conditions which are really precancerous and in distinguishing them from like conditions which are absolutely innocent. In many cases this is practically impossible. Are we then to cut the Gordian knot and to doom to operation every removable part which exhibits a degeneration, a suspicious alteration or deviation from the normal which may have excited the fears of the patient? On such a principle every mole, wart or excrescence, every scar every imperfect or damaged organ—all of which are prone to become cancerous—ought to be removed without delay. Then there are the doubtful and puzzling cases in which it is extremely difficult to determine whether the disease is cancer or not, and certainly far more difficult to say whether it is likely to take on cancerous action at a future period. Two or three such cases, in which the breast was the seat of the affection, have come under my notice, and in these I have usually advised delay. More than thirteen years ago a case of this kind came under my

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With regard to operations for genuine cancer, I always doubted whether, *taken as a whole*, they succeeded in ensuring to patients operated on any real lengthening of life. General statistics, as distinguished from the complete statistics of individual surgeons, are most untrustworthy firstly, because they are largely compounded of the more or less favourable cases which have a tendency to be reported whilst the cases which are fatal after operation or which the operation does not influence for good are allowed to pass without notice, and, secondly because they include cases of very different kinds, some in which the disease was not cancer at all and others in different conditions and at different ages which are not comparable. Before statistics can be allowed to influence our decisions they ought to be thoroughly sifted and analysed so as to group together series of cases of a precisely similar kind both as regards age and exact variety and condition of the disease. If we look at cancer of the breast, for instance, how great is the difference in the course and duration of individual cases. Age, condition of the patient, and situation of the disease all have a modifying influence in regard to the rapidity of its development and the early or late termination of the case, and it is the same with cancer affecting other parts of the body. Undoubtedly there are cases of genuine scirrhus of the breast which have remained well after operation for a number of years—some few as they may be, for eleven or twelve some for seven or eight, some for three or four, but, on the other hand, there are many

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which speedily recur, some which recur in an acute form owing to the operation itself, and others which if let alone run a chronic course, with little or no pain, and even without ulceration. The chance that the surgeon will lengthen the life of any individual patient by an operation appears to me not to be a very hopeful one. Sometimes it is not greater than the chance in a lottery in which there are a few prizes and many blanks. Apart, however, from lengthening the short span of human existence there are, of course, considerations which may entirely justify the surgeon in recommending an operation for cancer. The removal of an otherwise irremovable tumour whose presence may be a source of anxiety, worry or actual suffering, the likelihood, or at least the chance, that if the disease recurs its recurrent condition may be more endurable than its primary state—as Sir James Paget believes though others think differently, the fact that sometimes, if not always, the general health of the patient, for a space at least, improves—are the surgeon's justification for recommending, and sometimes even for pressing, an operation on a patient. In some situations—for example, in the mouth—the removal of the disease, it may be with a considerable portion of the jaw, is a great relief, and if the disease recurs it may recur in the glands only, and the surgeon has rendered the last days of the patient comparatively comfortable.

All the considerations here advanced as favourable to operations for cancer I admit to the full, and as I have been in the habit of acting up to them in my own practice I can make a more forcible protest against the doctrine that all cases of cancer or suspected cancer wherein the disease can be removed are to be treated on the same lines and that operation is to be urged on everyone. We hear not very infrequently, of "cancers" which disappear or which turn out to be of an innocent nature, and others we meet with which would have lasted longer if let alone, for an operation may light up the activity of a previously quiescent or very slowly advancing disease and thus may shorten the existence which it was intended to prolong. Some operations, again, which are spoken of to the patient as being comparatively trivial and free from danger are very greatly the reverse. Excision of the mammary gland for cancer is generally represented to the patient as involving very little risk to life. Undoubtedly in the large majority of cases, especially when the operation is performed upon the ancient lines admitting of conjunction of flaps the wound will quickly heal often by the first intention, and the recovery will be rapid and for the time complete, but the modern doctrine that "cancer germs" are distributed widely in the apparently sound superjacent skin and in the axillary glands has led some to "return to the old plan of sweeping away everything and leaving a great hole at the primary seat of disease to fill up by granulations" as well as to supplement this with clearing out the axilla in a systematic manner. Whilst yet small, "the axillary glands and the whole fat and cellular tissue of the axilla can be pulled out with the fingers with the greatest ease." These are the words of Mr Mitchell Banks* who has been the most able, prominent and successful advocate of the new method, and he candidly admits that the operation performed in this thorough and sweeping way is "no longer a bit of surgical tailoring and that many more people will die from it," that "the opening of the axillary cavity adds not a little to the danger of the original operation," that "the wound is tremendous" that "the chasm left is something frightful to look at," and that "the whole procedure is accompanied with a very serious shock seeing that thirty to forty minutes is the very shortest time in which it can be satisfactorily done." In three of his cases, "when the highest point of the axilla was reached it was found that there were still glands so adherent to the vein that they could not be removed whilst the condition of the patients was such that it was clear that the sooner they were off the table the better, lest an immediate sinking should occur." The immediate mortality from this operation is calculated as amounting at present to 10 per cent., but Mr Banks reasonably believes that it is reducible to 5, 6 or 7 per cent. as he has boldly dealt with cases which other surgeons would have been averse from touching, in order to give the patient a chance. In other cases he thinks he was scarcely bold enough. That he would have been justified in declining to operate on the less favourable ones is shown by his statistics. Out of forty-six of his early series six died after the operation and eleven had speedy

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* Reference may with advantage be made to two papers in the Pathological Society's Transactions for 1892 by Messrs. Raymond Johnson and Cecil F. Beadles p 170 and p 175.

active, of doing too much rather than too little, whilst a do-nothing and temporising policy was the special temptation of former times. Mr Curling informed me that when he was assistant surgeon to the London Hospital he used constantly to supply his senior colleague with cases for operation and frequently suffered from the mortification of seeing such cases discharged from the wards without relief. Case after case even of necrosed bone—readily removable—met with this fate. The difficulty now is to restrain the surgeon from operating in unsuitable cases. When any new procedure is introduced it at once becomes necessary for every young surgeon to perform it as soon as possible if he is not to lag behind in the race for surgical honours. What a rush there was to do Ogston's operation for knock knee when it was first introduced. Every surgeon was envious of Ogston and was sorry that he had not thought of the procedure himself. Yet after a brief but not inglorious career, for there was much merit in the expedient, it was laid aside for the safer method of McEwen, and some, perhaps, who were loudest in its praise may have regretted that they ever performed it.

Another cause of the multiplication of surgical operations has been the increase in the number of surgical specialties. There is scarcely any organ in the body which is now left in the hands of the former tyrants of the medical world—the fellows of the Royal College of Physicians of London—for almost every organ and every system of tissue in the human frame is cultivated by a surgical specialist. The office of every specialist must be magnified—his domain must be extended to its utmost limits. "Diseases of the throat," for instance, receive a generous interpretation from the laryngologist and from the suffering public and include all sorts and conditions of maladies affecting the miscellaneous structures between the base of the skull and the diaphragm. New diseases and new ramifications of old disease are discovered by the specialist and new instruments are invented for their removal. Some years ago Dr Clifford Allbutt favoured the profession with a graphic description of the treatment which the long suffering uterus, and especially the cervix uteri, had to endure, and a few weeks ago, in his Bradshaw Lecture, Mr Christopher Heath was endeavouring to reduce the diseases of the nose to their lowest denomination. In the treatment of clubfoot there appears to be a danger that the safe and efficient operation of subcutaneous tenotomy which has conferred lustre on the name of Stromeyer, will be set aside for radical operations of doubtful value. Even the ear has not escaped the prevalent infection. Operations are now performed for the entire removal of an unperforated membrana tympani with the malleus, the incus and even the staples.

The operative treatment of cancer which has been extending itself in recent years sometimes to the advantage and sometimes to the detriment of the individual patient, has been marvellously supported by the theory that cancer is only a local disease, at least in the first instance, as well as by the discovery of a "precancerous stage of cancer." No one can deny that there is and must be such a stage. The coming cancer does undoubtedly sometimes cast its shadow before, as exemplified in those cases of cancer of the breast which are preceded by eczema of the nipple as described by Sir James Paget.³ The difficulty lies in recognising conditions which are really precancerous and in distinguishing them from like conditions which are absolutely innocent. In many cases this is practically impossible. Are we then to cut the Gordian knot and to doom to operation every removable part which exhibits a degeneration, a suspicious alteration or deviation from the normal which may have excited the fears of the patient? On such a principle every mole, wart or excrescence, every scar, every imperfect or damaged organ—all of which are prone to become cancerous—ought to be removed without delay. Then there are the doubtful and puzzling cases in which it is extremely difficult to determine whether the disease is cancer or not, and certainly far more difficult to say whether it is likely to take on cancerous action at a future period. Two or three such cases, in which the breast was the seat of the affection, have come under my notice, and in these I have usually advised delay. More than thirteen years ago a case of this kind came under my

care at the London Hospital. The patient has been under my observation ever since, and she is still alive and accessible. The particulars of the case, which was one of chronic induration of the breast with retracted nipple, I will now relate.—The wife of a labourer, forty six years of age, was admitted into the London Hospital under my care on July 19th, 1879 and was discharged on the 22nd. She was a healthy-looking woman, had borne seven children, six of whom are still living, and she had had three miscarriages. She always suckled her children for eight to ten months. At the time of her admission she had been married twenty-two years, and she had lived in the same locality all her life. The monthly period was just ceasing, and for the last twelve months her catamenia had been very irregular. She had been sent in for malignant disease of the right breast and an urgent case for operation. Her medical advisers had told her that she would not live very long if she would not undergo an operation, and she had seen an eminent provincial surgeon who recommended her to have her breast removed on the ground that she was the subject of cancer. On examination the nipple of the right breast was seen to be retracted. The breast itself felt nodular, apparently from induration of the lobules, but on laying the hand flat on the organ and pressing it towards the chest no real tumour could be detected. The patient stated that the right nipple had always been small and that she seldom suckled with it. It had begun to recede two years previously, it was quite drawn in and could not be protruded. Both breasts were of fair size, well developed and of the same dimensions, and both were a little flaccid. Hard lobules could be felt in the left breast, but they were more pronounced in the right. Both breasts were very tender at each monthly period, and occasionally there was a thin watery discharge from the right nipple. The affection began with a pricking pain in the chest. Even now at times she has some uneasiness or pain either at the menstrual period or for two or three weeks, when it again disappears. The nipple always discharges a little. When she was in the hospital the case stood thus: no definite tumour in the breast, retraction of the nipple with watery discharge and hardness of the lobules, no perceptible glands in the axilla, skin over the breast healthy looking and freely movable, gland also movable and similar in appearance to its fellow save for the recession of the nipple, no family history of cancer, no wasting of any kind. From these features I diagnosed the case as one of chronic induration of the breast with retracted nipple and did not advise an operation. The patient herself had been much averse to being "cut about," as she expressed it, and received her reprieve with much satisfaction. Had the breast been amputated for cancer no doubt the case would have been quoted as an instance of cure by operation. Some may possibly think that it is safer to remove an organ of this kind, but I share the objection which the patient herself entertained to an avoidable mutilation.⁴

With regard to operations for genuine cancer, I always doubted whether taken as a whole, they succeeded in ensuring to patients operated on any real lengthening of life. General statistics as distinguished from the complete statistics of individual surgeons, are most untrustworthy firstly, because they are largely compounded of the more or less favourable cases which have a tendency to be reported, whilst the cases which are fatal after operation or which the operation does not influence for good are allowed to pass without notice, and, secondly because they include cases of very different kinds some in which the disease was not cancer at all and others in different conditions and at different ages which are not comparable. Before statistics can be allowed to influence our decisions they ought to be thoroughly sifted and analysed so as to group together series of cases of a precisely similar kind both as regards age and exact variety and condition of the disease. If we look at cancer of the breast, for instance, how great is the difference in the course and duration of individual cases. Age, condition of the patient and situation of the disease all have a modifying influence in regard to the rapidity of its development and the early or late termination of the case, and it is the same with cancer affecting other parts of the body. Undoubtedly there are cases of genuine carcinoma of the breast which have remained well after operation for a number of years—some few as they may be, for eleven or twelve some for seven or eight, some for three or four, but, on the other hand, there are many

³ Reference may be made to papers by Mr Batlin in vols. lix. and lx. of the Medical and Chirurgical Transactions and to Mr Bowley's paper in vol. lxxiv. Mr Bowley gives thirteen cases. One of these was that of a lady aged sixty who had had the affection nearly five years. Mr Thomas Smith amputated the breast. Its structure was in a way except at the orifices of the ducts, and no growth was found in any part.

⁴ Mr Jacobson advocates removal of the breast in such cases. See a note to a very able and interesting article on "The Precancerous Stage of Cancer of the Tongue," Guy's Hospital Report, 1890, p. 215.

which speedily recur, some which recur in an acute form owing to the operation itself, and others which if let alone run a chronic course, with little or no pain, and even without ulceration. The chance that the surgeon will lengthen the life of any individual patient by an operation appears to me not to be a very hopeful one. Sometimes it is not greater than the chance in a lottery in which there are a few prizes and many blanks. Apart, however, from lengthening the short span of human existence there are, of course, considerations which may entirely justify the surgeon in recommending an operation for cancer. The removal of an otherwise irremovable tumour whose presence may be a source of anxiety, worry or actual suffering, the likelihood, or at least the chance, that if the disease recurs its recurrent condition may be more endurable than its primary state—as Sir James Paget believes though others think differently, the fact that sometimes, if not always the general health of the patient for a space at least, improves—are the surgeon's justification for recommending and sometimes even for pressing an operation on a patient. In some situations—for example, in the mouth—the removal of the disease, it may be with a considerable portion of the jaw is a great relief, and if the disease recurs it may recur in the glands only, and the surgeon has rendered the last days of the patient comparatively comfortable.

All the considerations here advanced as favourable to operations for cancer I admit to the full, and as I have been in the habit of acting up to them in my own practice I can make a more forcible protest against the doctrine that all cases of cancer or suspected cancer wherein the disease can be removed are to be treated on the same lines and that operation is to be urged on everyone. We hear not very infrequently of "cancers" which disappear or which turn out to be of an innocent nature, and others we meet with which would have lasted longer if let alone, for an operation may light up the activity of a previously quiescent or very slowly advancing disease and thus may shorten the existence which it was intended to prolong. Some operations again which are spoken of to the patient as being comparatively trivial and free from danger are very greatly the reverse. Excision of the mamma for cancer is generally represented to the patient as involving very little risk to life. Undoubtedly in the large majority of cases especially when the operation is performed upon the ancient lines admitting of conjunction of flaps the wound will quickly heal often by the first intention, and the recovery will be rapid and for the time complete, but the modern doctrine that "cancer germs" are distributed widely in the apparently sound superjacent skin and in the axillary glands has led some to "return to the old plan of sweeping away everything and leaving a great hole at the primary seat of disease to fill up by granulations" as well as to supplement this with clearing out the axilla in a systematic manner. Whilst yet small, the axillary glands and the whole fat and cellular tissue of the axilla can be pulled out with the fingers with the greatest ease. These are the words of Mr Mitchell Banks² who has been the most able prominent and successful advocate of the new method and he candidly admits that the operation performed in this thorough and sweeping way is "no longer a bit of surgical tailoring and that many more people will die from it" that the opening of the axillary cavity adds not a little to the danger of the original operation, that "the wound is tremendous" that the chasm left is something frightful to look at, and that "the whole procedure is accompanied with a very serious shock, seeing that thirty to forty minutes is the very shortest time in which it can be satisfactorily done." In three of his cases "when the highest point of the axilla was reached it was found that there were still glands so adherent to the vein that they could not be removed. Whilst the condition of the patient was such that it was clear that the sooner they were off the table the better lest an immediate sinking should occur." The immediate mortality from this operation is calculated as amounting at present to 10 per cent., but Mr Banks reasonably believes that it is reducible to 5 or 6 or 7 per cent. as he has boldly dealt with cases which other surgeons would have been averse from touching in order to give the patient a chance. In other cases he thinks he was scarcely bold enough. That he would have been justified in declining to operate on the less favourable ones is shown by his statistics. Out of forty six of his early cases six died after the operation and eleven had speedy

recurrence of the disease, nine of the eleven being dead and buried before the lapse of twelve months, one living fifteen months and the last a little longer. In several of these eleven cases it was impossible to remove all affected glands. Mr Banks has done good service in pointing out that no one can tell the state of the axillary glands till he sees them and that until the axilla is opened no one can be sure what he is going to find. Over and over again he has taken out of the armpit glands seriously affected when no glands could be felt even by the most careful handling by several persons. Often, too, they have extended high into the axilla and even into the neck when they were scarcely palpable externally, and when exposed "some may shell out like peas and some may adhere to the vein like limpets to a rock." These statements I can myself confirm and they lend strong support to Mr Banks' contention that the axilla should always be explored in every case of removal of the breast for cancer for, as Mr Banks observes, it is "worse than useless to make a great wound over the chest and leave affected glands in the axilla." With great ability Mr Banks contends that his method of making a clean sweep is the correct method of operating, and as the generality of surgeons do not adopt it in its entirety the following extract from Mr Banks' paper has the highest significance. "The popular idea that operating prolongs life even if imperfectly done is quite wrong. I believe this to be a perfect delusion. I believe that all these eleven patients would have lived longer if they had never been touched. Yet you hear the operation being constantly advised on the ground that if it does not cure it will at any rate give a little longer lease of life. On the contrary, the excitement and increased cell growth that are set up by an operation make everything that is left behind of a cancerous nature grow with double and treble speed, and I am inclined to think that the deaths after reappearance are more painful than where the cancer has not been touched. If a surgeon does not see his way to a clean sweep I can only implore him to let things alone for in few diseases does meddlesome interference work more mischief than in this. It is but right that, whilst pleading the advantages of early and free operation, one should admit that, if it fails thoroughly to cure, it does not improve the patient's state but makes it decidedly worse." It is true that these remarks are aimed at cases in which palpably cancerous tissue is left behind but they apply also to operations which many surgeons still perform if the view taken by Mr Banks and others that "cancer germs" exist widely disseminated in the areolar tissue the fat and lymphatic vessels round the focus of the disease be correct. The generality of surgeons I believe do not see their way to making quite such a clean sweep as Mr Banks advocates. They remove the whole breast as a rule, but this rule has its exceptions especially when the growth is in the outer portion of the breast. Like the great John Hunter they remove all obviously affected glands but they leave skin enough to cover the wound if the skin is to all appearance normal and is not adherent to the tumour. No palpably cancerous tissue is left behind, and a good margin of seemingly healthy tissue is taken away. Yet if the so-called "cancer germs" are more widely spread these operations must be regarded as incomplete and futile. Nevertheless some of these operations are attended with as good results as those which Mr Banks himself has obtained, whilst in others recurrence speedily takes place. How is this puzzling and seemingly anomalous circumstance to be explained? Recurrence of cancer of the breast after apparent excision of the entire disease and recurrence of the disease in the axilla several years after the operation is by modern theorists explained by the supposition that "some germs of cancer have been left behind in the fat or perhaps in a portion of a lymphatic vessel or gland. Thus Mr Banks mentions the case of a woman over seventy years of age who was under his care and in whom a return of the disease occurred in the axilla four years and a half after complete removal of the breast and glands and a case of recurrence in another patient who had had the breast removed in America ten years previously. During all that long period says Mr Banks 'she remained apparently free but some little fragment of gland tissue had been left in the upper and outer corner there the disease once more sprang up and invaded the glands in a hopeless manner. One could not help deeply regretting that the surgeon had not made a

² Some Results of the Operative Treatment of Cancer of the Breast. See also a paper by Mr Watson Cheyne Skin Grafting after Excision of Mamma, THE LANCET July 4th 1891

⁶ Refer to my with advantage be made to two papers in the Pathological Society's Transactions for 1892, by Messrs. Raymond Johnson and Cecil F. Beadles p 170 and p 175.

clean sweep and carried away enough and more than enough when he was at it, as there could then have been no doubt about the cure being a permanent one." With these views of Mr Banks I cannot concur, for I do not believe that "cancer germs" would be so obliging as to remain quiescent and *perdus* in the axilla for ten years or even for four years and a half without making any sign. To my mind facts of this kind point to that constitutional element in cancer which it is the fashion of the pathology of the present day to ignore. The acceleration imparted to cancer by operation even after the cleanest sweep which has been compatible with the immediate preservation of life, the recurrence of cancer in an acute form in the whole lymphatic area of the original focus of the disease, and the constant return at the site of operation or in the neighbouring lymphatic glands are to myself the evidences of a constitutional cause. I will cite one or two examples of cases which tend to corroborate this view. In June, 1891, I was consulted by a lady sixty-three years of age who had a hard lump, I think, in the left breast, if I remember rightly. The tumour was a scirrhus cancer about the size of a Tangerine orange. The axillary glands were not palpably implicated, but as the patient was of a stout habit I could not feel certain on this point. She had first noticed the growth two or three years (I understood her myself to say three years) previously, and had suffered very little discomfort. The general health was good, and she did not appear to be nearly so anxious as her relatives. Having regard to her age and the other facts of the case, I gave it as my opinion that there was no necessity to be in a hurry to have the disease removed unless it was a source of mental distress and anxiety, but that I should like to see her again shortly before expressing a more decided opinion. The natural uneasiness of the patient's relatives led, as I anticipated and as usually happens in these cases, to a second opinion being taken, with the customary result that an immediate operation was advised. This advice was accepted. Excision was performed, but not, I believe, by the clean sweep advocated by Mr Banks. In a few months recurrence took place, and another surgeon removed the new growth or increased growth of old remaining germs, as the case may be. Again the disease recurred, and towards the end of last year I understand that another surgeon—the fourth in the sequence of consultants—operated on the patient, with what result I have not yet ascertained. Now no one can with certainty predict what course the disease would have taken if it had been let alone, my impression is that the patient would not have been worse off by the time that the third operation was performed. I have seen two cases of slightly ulcerated scirrhus cancer of the breast in patients over sixty which had lasted for several years, and I have seen the disease speedily return when excised. The second case is briefly this. In May, 1885, an unmarried lady forty-five years of age consulted me concerning a small hard tumour, of the size of a walnut, which occupied the right breast and had been noticed only ten days. The growth was freely movable, and there was no retraction of the nipple. There was no doubt as to the diagnosis, the patient elected to have the scirrhus tumour removed, and I performed the operation, taking away the whole of the gland. She remained well for nearly two years, when the left breast became the seat of scirrhus. Amputation of the gland was performed by another surgeon at a distance from London. For another year or more she continued well, and then the axillary glands on the left side, or the side on which the last operation had been performed, became involved. In January, 1889, the glands were removed by the surgeon who had excised the left breast, and by desire I was present and assisted at the operation. The disease proved to be rather more extensive than we had anticipated from external examination. Glands had to be dissected off the axillary vein, and one or two large tributaries joining the parent trunk had to be ligatured and removed. The operation was very skillfully performed, but the patient died on the second day, partly, I think, from shock and partly from commencing blood poisoning.

Now, recurrence of cancer on the side opposite to that from which it had been removed in the first instance can scarcely be due to any germs remaining behind after the primary operation and their transference to the other side of the body. The existence of a constitutional element seems to me the most reasonable explanation, and a further proof is the fact that cancerous patients may be benefited and the progress of the disease retarded by appropriate medical treatment. Iron and cod liver oil alteratives and remedies which act upon the liver may prove decidedly helpful to the patient.

Time will not permit of the discussion of this interesting

question further here, but I have one or two remarks of a practical character to make in reference to operations for cancer. The first great indication in such operations is to remove the disease thoroughly. In lecturing on internal urethrotomy, Sir Henry Thompson insisted on the necessity for cutting through the whole of the stricture, condensing his advice into the maxim "If you cut at all, cut all." Similarly of cancer it may be said "If you excise at all, excise all." In excision of mammary cancer, if a surgeon wishes to be certain that he has acted up to this maxim, he must remove the whole of the gland with the fascia over the pectoral muscle. The investigations of Mr Raymond Johnson and Mr Cecil Beadles have shown that when a nodule of scirrhus exists in the breast the remainder of the gland is by no means normal and may even contain small cancerous nodules at a distance from the primary tumour, at the sternum border, and on the pectoral surface of the gland. Mr Pick tells me that he always cleans the fascia off from the pectoral muscle as he would do in dissecting the part, and this practice will probably now become the rule and not the exception. It has also been pointed out that in reflecting the skin little bits of breast tissue, which come very close to the surface, are apt to be left behind, and that to remove the overlying skin as freely as possible is indicated. Of the axillary glands I have already spoken. The second great indication is to be rigidly economical in the expenditure of the patient's vital fluid, for cancer patients do not bear well any great loss of blood, or, indeed, very prolonged and severe operations. For cases of cancer of the tongue involving the floor of the mouth Sédillot's operation (in which the lower jaw is divided) is an excellent one, as it fulfils all necessary indications. It enables the operator to clear away easily the whole of the disease to which it allows free access and to secure bleeding vessels at once with very little loss of blood. Some of the operations which I performed at the London Hospital by this method were done to render the patient more comfortable, and the subjects of others I have not been able to trace. In 1887, however, I assisted my friend Dr R. W. Goldie, Medical Superintendent of the Poplar and Stepney Sick Asylum, in performing Sédillot's operation on a man who had epithelioma of the tongue. The mass removed was not examined microscopically, but I believe that it was unquestionably epithelial cancer. The patient wrote to me at the end of 1891 to say that he continued quite well and to express his gratitude—partly by an indication of his readiness to receive pecuniary assistance. He has now an enlarged cervical gland and a suspicious swelling near the epiglottis.

The liability to considerable hemorrhage before the linguals can be secured is the chief objection to Whitehead's method of removing the tongue with scissors. The lingual artery may be enlarged in cases of cancer, or may by retraction elude the forceps of the operator. Sometimes it is addicted to emitting a jet of blood directly into the face of the operator and obscuring his view of its orifice. In the majority of cases the hemorrhage is trivial, but there are exceptions, and even in removing only one half of the tongue with scissors after splitting the organ down the middle line, I have experienced a good deal of trouble in securing the lingual. Very free hemorrhage is liable occasionally to occur when the steps of Whitehead's operation have been most scrupulously followed, when they are not and the tongue is removed entire without the successive and regulated pauses for stopping hemorrhage after each snip of the scissors and for ligaturing or twisting each lingual artery in its turn the bleeding may be "terrific" and almost incapable of control. Such hemorrhage infallibly occasions a fatal issue and I feel certain that cancerous patients will not readily bear the loss of the "regulation pint" of which Mr Lund writes in his able *brochure* on Mr Whitehead's operation. It is quite possible but not easy to secure the lingual arteries in the mouth prior to division, but those who resort to antecedent ligature of the linguals, or Billroth's operation, to them in the digastric triangle by the usual semicircular submaxillary incisions.

The most skilful and brilliant operator of our day was

* See Mr Troves case of Excision of the Entire Tongue by Whitehead's Method. THE LANCET April 22nd 1892. It is only right to say that several excellent surgeons prefer Whitehead's method to any other. See Remarks on the Removal of the Entire Tongue with Scissors by the Whitehead Method by Mr Jacobson. THE LANCET April 14th 1893. In a letter to THE LANCET of April 29th 1892, in support of Mr Whitehead's method against the strictures of Mr Troves Mr F. A. Southern of Manchester says that in the majority of cases the amount of blood lost has been very small—certainly considerably less than in

bought to be too little mindful of loss of blood during operations, he did not like or did not consider it needful to stop to secure bleeding vessels, but it is absolutely essential for the welfare of the patients and to obtain the best results that the arrest of hæmorrhage should be a primary care of the surgeon, and that to this he should subordinate thoughts of rapidity and brilliancy. The late Mr Guthrie professed extreme contempt for bleeding arteries even of the second and third magnitude and inculcated amputation at the hip joint without using a tourniquet. He thought that a good surgeon should delight in the recollection of scenes sufficient to try the presence of mind of any man when all his fingers had been engaged in pressing the orifices of bleeding vessels.⁸ What could he have said to the ignoble catch forceps or the elastic bandage! Guthrie's method of amputation at the hip-joint has been practised on one occasion only. The loss of blood, specially from the posterior flap, was so great that no prudent surgeon should repeat the experiment. It is always possible to apply an abdominal tourniquet or elastic tube and to save the loss of blood which would otherwise lead to the early death of the patient.

From what I have now said about cancer it may be gathered that I do not hold in their integrity the current views that cancer is a mere local disease arising from irritation and only spreading both locally and generally by infection from its primary seat. Its development and its recurrence I regard as essentially connected with derangement or incompetency of the organs of sanguification—especially of the liver and the lymphatic glands—and I believe that its occurrence and recurrence will not be entirely prevented, however freely we may remove the disease and tissues which we may regard as precancerous. At the same time, I admit that the value of operations in retarding or removing the disease must be judged not by theory but by the results of the operations themselves. To have a fair chance of permanent success it is clear that operations must be early and complete, and in order that the profession may be able to judge of their real value and validity the whole of the experience of individual surgeons should be recorded as faithfully as has been done, very much to his credit, by Mr Mitchell Banks.

I must now pass on to the abdomen. In former years a wound of the peritoneum was regarded with the greatest apprehension, and surgeons rarely opened the abdominal cavity. When they did it was because they deemed it a matter of necessity, and generally it was a *dernier resort* in intestinal obstruction. As the operation was put off till the last, success could scarcely be expected. In all wounds and injuries to the abdomen the sheet anchor was opium or opium in combination with calomel, which had obtained a reputation beyond its deserts for being able to prevent the effusion and for causing the absorption of inflammatory lymph, thereby preventing and curing inflammation. In rupture of the abdominal viscera the patient was left almost entirely to the unaided efforts of the *vis medicatrix nature*, and, as Billroth has remarked, the *vis medicatrix nature* is a better physician than surgeon.⁹ The morbid dread of even a simple incision into the peritoneum and the admission of air was shown by the reluctance with which many surgeons proceeded to open the sac in a strangulated hernia and the belief that the success of the operation largely depended upon being able to avoid doing so. It is now recognised that the main factor in the results of herniotomy is the condition of the gut at the time of operation. The length of time, however, during which the gut has been strangulated is not a necessary index of the condition of the gut itself, for all depends on the tightness of the stricture. On the one hand I have seen in a case of inguinal hernia a knuckle of bowel quite mortified after only twenty-four hours' strangulation, and I believe that half that time may suffice to kill the gut if the stricture is exceptionally tight, and on the other I have readily reduced by taxis cases of strangulated femoral hernia after the bowel had been down for several days. Two cases occur to me in which I effected reduction after four days' strangulation and both cases occurred about the same period. The first case was that of a lady to whom I was sent by a worthy physician—now, alas no more—who was a pillar of this Society and a very familiar figure at its meetings. He volunteered the statement that I should not be able to effect reduction by taxis and had better not attempt it as after so many days the bowel must necessarily be gangrenous.

The second patient was a man at the hospital, to whom I was summoned by the house surgeon owing to the surgeon on duty being away from home. He told me that he thought I should be obliged to operate and to open the sac. From the want of tension in the tumour in both cases and the comparative mildness of the constitutional disturbance I concluded that the bowel was not tightly nipped in either case, and with very little difficulty and in a few minutes reduction was effected, and both the patients recovered without a bad symptom. At the present day I fancy that surgeons have not the same anxiety to reduce hernia by taxis, and sometimes decline to attempt it where it might be practicable because they consider that the patient is better off after an operation which can be made radical as well as palliative, but I think that it is fairer to the patient to return the bowel—always supposing that it is reducible without any prolonged effort which would damage the gut and be more prejudicial than the knife—unless the state of the case has been fully explained to the patient beforehand and consent has been obtained to a curative operation. If there is any kind of doubt about the condition of the strangulated bowel it should by all means be exposed and examined. Occasionally patients die after taxis either from shock, which is fatal to old people and to patients with bronchitis and emphysema, or because, after being liberated from its stricture, the congested bowel, which, to use Mr Hutchinson's expression, has been triumphantly returned into the abdomen, sets up peritonitis, acting in its morbid state as an infective agent or in a manner which has not been fully elucidated, but which, perhaps, may result from the return of stagnant and altered blood into the circulation.

It cannot be stated too emphatically that the fatality of operations for strangulated hernia is not due in any wise to the operation, but entirely to delay in resorting to it or in calling in skilled surgical aid. Sometimes the little swelling in the groin is overlooked, sometimes the patient falls into the hands of quacks, sometimes the medical attendant or the patient makes too prolonged, energetic and persevering efforts to reduce the hernia by taxis or temporises too long, and a consulting surgeon may be summoned or the patient sent to the hospital only after the loss of the precious time which separates life from death. It is this frittering away of an invaluable time which makes the mortality from strangulated hernia and acute obstruction of the bowels generally still very considerable, and but for this the mortality from strangulated hernia, at all events, might be reduced to a minimum. This result may confidently be looked for as medical education advances. May we hope that it will be an early fruit of the five years curriculum? In the good days coming all practitioners will be guided by the golden rule of examining the sites of hernia in cases of continuous sickness, and of not spending too much time over the taxis, the application of ice or the pursuit of a temporising policy before the case is operated upon. In the earlier years of my connexion with the staff of the London Hospital it was a frequent occurrence to see cases of strangulated hernia in which the bowel had been down for six, seven or eight days and was already perforated, sloughing or gangrenous. Of such cases I had a liberal share. The patients suffered little except from the sickness and died within twenty-four or forty-eight hours after operation, which seemed to exercise a prejudicial effect the free flow of the fæces after division of the stricture appearing to occasion symptoms of exhaustion. The line of treatment of the gangrenous gut then recommended and adopted was to cut into it after relieving the stricture and to fasten the edges to the skin for the purpose of keeping the opening patent and protecting the subjacent connective tissue and fit from contamination by the outflowing fæces. The results were very unfavourable, and though I doubt whether resection of the damaged and dead intestine would have made them better I certainly now think that it would have been the proper method of treatment and that it should be adopted in similar cases.¹⁰

The advantage to the patient in being submitted early to operation for strangulated hernia is twofold. Not only is the prospect of immediate rescue from death much brighter but a radical cure of the local trouble can accompany the division of the stricture without prejudicing the issue of the operation. By a radical cure I mean ligation and removal of

⁸ Lectures on Wounds and Injuries of Arteries by G. J. Guthrie F.R.S. 1846, p. 11.

⁹ Surgical Pathology and Therapeutics p. 167.

¹⁰ See a paper by Mr C. B. Lockwood on this subject Royal Medical and Chirurgical Society's Transactions vol. lxxxiv. p. 199. Mr Lockwood gives a melancholy list of 37 fatal cases of gangrene of intestine being treated by the method referred to at St. Bartholomew's Hospital. Out of 10 cases there were only 4 recoveries. He advocates excision.

the sac and omentum as far as the internal rings of the inguinal, femoral and umbilical canals, combined with such suturing as may be in favour with the operator, but I confess that I place comparatively little faith in deep sutures and think that if they are at all complicated, or if they are metallic and are left buried in the tissues, the patient is much better off without them. I have had occasion to observe that after the canals have been laid open and the sac and omentum ligatured and cut off the vacant canals fill in more or less with granulations, and that if the part is supported with a truss for some time after the healing of the wound till the union is firm and the parts are consolidated a radical cure may be effected without leaving sutures which are permanent and which may act as foreign bodies and become the source of subsequent trouble.

Engrafting upon herniotomy measures for preventing the subsequent recurrence of the hernia do not appreciably add to the danger of the operation. On the contrary, these measures often diminish risk by the removal of an effete sac and unhealthy omentum which would remain as sources of irritation and causes of prolonged suppuration. In strangulated umbilical hernia the benefit of this procedure is well marked. I can remember the dislike which I entertained at one time to being called to cases of strangulated umbilical hernia. The patients are usually obese women with chronic bronchitis and emphysema, whose equilibrium is soon disturbed and who are not favourable subjects for operation. Some, perhaps a majority, of these cases could be reduced with a little patience by the taxis, and I was never anxious to cut them, for the exposure of a mass of altered omentum and the return of the congested bowel usually a portion of the colon, into the abdomen signified consecutive inflammation, suppuration, peritonitis and death. As soon, however, as I adopted a radical procedure and after the reduction of the bowel made a clean sweep of the omentum sac and loose bag of skin the prospects brightened. The resulting wound was small and the patients recovered in much larger proportion, whilst after recovery they found themselves with a level abdomen and in a condition of comfort which they had not experienced for years.

The ancient dread of wounding the peritoneum and the supererogation of fatal peritonitis, which many of us inherited in our medical education, subsided at first gradually and then disappeared with rapid strides. It was seen that clean incised wounds of the peritoneum unaccompanied with extravasation of any kind into the peritoneal cavity, or injury to the contained viscera, as, for instance in stabs of the abdomen, exploratory operations and removal of foreign bodies from the stomach or intestines, were not generally attended with ill results, and that when the viscera were injured the danger arose from extravasation of their contents and not from the implication of the peritoneum itself. The *vis medicatrix nature*, aided to the utmost by calomel and opium, proved so thoroughly unreliable that a bolder course was gradually adopted and sanctioned by professional opinion. A great stimulus was imparted to abdominal surgery by the perfecting of the details of the operations for the removal of ovarian and other removable tumours. The previously high death rate, which had led to strong opposition to the operation in the profession and almost caused its abandonment, was rapidly reduced, and the principles on which success depends were discovered and formulated. It was found that careful cleansing of the peritoneum after operation was all important and that to leave blood or serum or other decomposable fluid behind meant peritonitis, constitutional disturbance, septicæmia from absorption of decomposed fluid, and a fatal issue to the case. The *toilet of the peritoneum*, carried out differently in detail by different surgeons, is now a cardinal feature of the operation and has been found applicable to cases of suppuration rupture of cysts, perforations of the hollow viscera and extravasations from injury and disease with equally beneficial results. Reopening the peritoneum and making a second toilet is often practised with great benefit if the case is not doing well. Another cardinal point in abdominal surgery has been established through the observation made in experiments on animals that two peritoneal surfaces when brought into close approximation rapidly and firmly unite, and to this principle, which is now applied in all wounds of the hollow viscera whether caused by accident or inflicted by the surgeon himself, the profession and mankind are indebted for many of the brilliant achievements in abdominal surgery at the present day. Thus the peritoneum, instead of being regarded as an enemy to the surgeon and to the patient, is now looked

upon as their best friend when properly treated and understood. Hence have sprung other changes in practice in the last few years. Operations founded on the principle of avoiding and, as it were, circumventing the peritoneum, such as lumbar nephrectomy and nephrotomy and lumbar colotomy, are rapidly yielding place to a considerable extent to the direct or dia peritoneal¹¹ method of procedure. Dia peritoneal nephrectomy and nephrotomy, with precautions, of course, to prevent the entrance of injurious fluids into the cavity and their retention therein, as well as inguinal colotomy, are largely superseding the retro-peritoneal operations. It is recognised that it is far better to make an intentional and clean cut into the peritoneum in front than to wound it or tear it unintentionally and surreptitiously behind. The same influence and change are extending to the ligature of the common iliac, internal iliac and external iliac arteries, but for the external iliac artery, at least, I think that the subperitoneal method is quite satisfactory and much to be preferred.¹² A more efficient medical treatment of peritonitis following abdominal operations is now becoming established. Former students and house surgeons at the London Hospital will remember that Mr. Luke alone amongst the members of the surgical staff prescribed the cathartic saline mixture instead of tincture of opium after an operation for strangulated hernia. I believe that Mr. Luke had reason on his side, and that the sulphate of magnesia reduced the distension of the intestines above the stricture which the routine treatment of opiates tends to maintain. I learn from Mr. Greig Smith that Mr. Lawson Tait makes frequent use of saline purgatives, and where others would drain he purges. Mr. Smith himself is a strenuous advocate of the value of saline purgatives in place of opium and sedatives as a remedy for distension and peritonitis. "A purge," he says, "carries off great quantities of gas and fluid, relieves the distension, and probably, by its physiological action, relieves engorgement of intestinal vessels." A Seidlitz powder or a dose of Epsom salts will sometimes act like a charm in these cases, putting an altogether new complexion on the case.¹³ The therapeutic value of purges in operative peritonitis is also well known to American surgeons, and to Professor Gyll Wyhe, who gave no opium in 1886, but in variably, on the appearance of distension, pain and vomiting, administered enemata and purgatives with the most signal advantage. "I am convinced," he says, "that, in my own experience, I have seen many lives saved, besides a vast diminution of the trouble and difficulty in managing cases afterwards."¹⁴

So far as abdominal disease is concerned the technique of the operations now performed for affections of the liver, gall bladder, spleen, pancreas, kidneys, stomach, intestine, rectum, bladder, ovaries and uterus leaves little to be desired. Scarcely one of these operations was in vogue when I was a student. It may also be noted that the physician of the present day is often more surgical than the surgeon himself, and more keen in recommending the surgeon to perform an operation than the surgeon is keen to perform it, but cases there are, such as those of *intestinal obstruction*, where earlier consultation with the surgeon would be beneficial to the patient. I say this from a recollection of one or two cases which had remained in the medical wards for two or three weeks and were then transferred to the surgeon for the performance of colotomy at the eleventh hour. I say it also with a full knowledge of the great benefit which occasionally accrues from medical treatment and also from kneading the abdomen. I can recall four or five cases in which kneading the abdomen removed the symptoms of obstruction, and all were cases which seemed likely to be capable of relief by operation alone. Time will not permit of their introduction here, and I must limit my remarks to a few conditions in which greater surgical activity may lead to the rescue of future sufferers from inevitable death.

The advisability of operating where practicable in cases of

¹¹ The term dia peritoneal is etymologically more correct than the terms retro peritoneal, intra peritoneal, extra peritoneal, and sub peritoneal, which are hybrids, and have become acclimatised. Ecto-peritoneal would be more correct than retro-peritoneal.

¹² In THE LANCET of Dec. 10th, 1892 I am credited undeservedly with a dia peritoneal ligature of the common iliac artery. My colleague Mr. Treves, ligatured the internal iliac in this way for a necrosis of the hip-joint with marked temporary benefit (Clinical Society of Transactions vol. xxv, p. 249). Perhaps this is the operation which the writer in the Mirror of Hospital Practice had in his mind when he said that "the operations on the common iliac of Dennis in America and of Rivington and Lucas in this country have led to the fuller consideration of this subject." I make this correction as I do not wish to appear like the jackdaw in borrowed plumes. Two cases of ligature of the external iliac artery which I published were done by the sub-perit. neat method.

¹³ Abdominal Surgery by Mr. Greig Smith, pp. 92 and 94.

perforating ulcer of the stomach and even in *perforating typhoid ulcer* is recognised at the present day. A few cases have been submitted successfully to operation, and I am led to inquire whether surgical interference in cases of obstinate ulcer of the stomach might not be beneficial at an earlier date. In other words, could not the operation be undertaken for the prevention of perforation rather than for endeavouring to save the patient after perforation has occurred? "From a surgical point of view," says Mr Greig Smith, "it is important to note that the perforating ulcer lies, in the large majority of cases, in the anterior wall of the stomach. Dreschfeld says that the ulcer perforates on the anterior surface eighty five times out of 100 cases, whilst on the posterior surface only two and in the pylorus only ten, out of 100 perforate" (*op cit*, p 773). The difficulty, therefore, in dealing surgically with ulcers on the anterior surface of the stomach is chiefly confined to diagnosis and prognosis, but ulcers on the posterior surface come into a different category, it might be necessary to incise freely the anterior surface of the stomach to deal with them satisfactorily and surgical difficulties would be added to those of a strictly medical character. On the posterior surface of the stomach the mischief occasioned by perforation may for a time be lessened by adhesion of the stomach to the front of the vertebral column. Some years ago a housemaid in our family about twenty three years of age suffered from severe gastric symptoms which appeared to me to point to chronic ulceration of the stomach. She had pain in the right hypochondrium both in the early morning and five minutes or so after taking food. The pain lasted about ten minutes and was relieved by eructation. After eating pain was experienced in the back—a very important symptom—and she brought up her food again. There was no hæmatemesis, but often on rising in the morning she had sudden pains in the stomach and brought up half a pint of watery fluid. When she went about the house she used to bend her body forwards—a symptom which I have not seen noticed in medical works. The patient was placed under the care of Dr Fenwick and was admitted into the London Hospital. After some weeks she died and the post-mortem examination revealed chronic perforating ulceration of the posterior wall of the stomach. The vertebral column and superjacent structures to which the stomach was adherent, supplied the deficiency in the viscera itself. Is it possible to diagnose and treat surgically a condition of this kind?

Ruptures of the stomach seem generally to be quickly fatal—so quickly that there is scarcely time for the surgeon to operate. In the latter part of 1886 I had a case under my care which I believed to be rupture of the stomach complicated or uncomplicated with rupture of the liver or spleen. A boy aged thirteen a porter had been violently squeezed in the abdomen, and was admitted into the London Hospital in a state of collapse—pale, conscious, restless, respirations shallow, the pulse rapid and small and soon becoming imperceptible at the wrist, the pupils equal and mobile. When I saw him soon afterwards his face had a cyanotic aspect and there were marked tenderness and pain in the epigastric region. After examination I came to the conclusion that probably the stomach had been ruptured. Unfortunately he was evidently moribund and it was impossible to explore. He died very speedily and no necropsy was made.

Ruptures of the intestine are rather more hopeful and Mr Croft has operated on them with success.¹⁴ In 1886 a case came under my care at the London Hospital which would have been a most favourable one for surgical interference, but in which I was deterred from operating owing to a doubt as to the diagnosis arising from absence of nausea and vomiting noted as almost invariable and most distressing symptoms of the injury. A carman aged forty one was admitted into the London Hospital on Feb 3rd, 1886. He had been struck in the abdomen just below the umbilicus by the shaft of a waggon and had been jammed against a wall. He complained of great pain at the umbilicus and lower part of the abdomen, his face was anxious, his lips were pale, the pulse was frequent, but remarkably good, there was no vomiting or retching and half an ounce of brandy given was not returned. Sixteen ounces of clear normal urine were drawn off. In the course of the case the abdomen became a little swollen and very tender on pressure at one particular spot near the umbilicus. The pain and tenderness at this spot continued till death. The temperature rose to 101° 3 on the second day and to 101° on the third day,

being normal afterwards. The pulse on Feb 3rd was 126, but not small or too compressible, the respirations were 24. The bowels were confined, but on the fourth day were opened by an enema, with some relief to the pain. No blood passed per anum. There was never any vomiting or retching or complaint of feeling sick during the whole course of the case. The accident happened at 4 P.M. on Feb 3rd, and the patient died rather suddenly at 12.25 A.M. on the 8th, he thus lived four days, eight hours and twenty five minutes after the accident. He was treated with one-third of a grain of morphia every eight hours, had ice to suck, and took milk and brandy in small quantities without returning them. The treatment consisted of Leiter's tubes containing iced water applied to the abdomen. Necropsy. On opening the abdomen a quantity of liquid fæces mixed with lymph flowed out. A portion of the small intestine situated in about the middle of the ileum was found ruptured cleanly, completely and circularly, the ends had been nearly in apposition, but there had been considerable extravasation of fæcal matter. The coils of the intestine were partly matted together by lymph.

In the foregoing case the chief symptom was the tender swelling with the fixed pain near the umbilicus, and I could not persuade myself that the intestine itself had been ruptured owing to the absence of nausea and vomiting, even after the patient took milk and brandy. This condition of things deterred me from operating. The necropsy was made by Dr Sutton, to whom my regret at not having explored was communicated and he said to me, "I hear that you are sorry that you did not operate in this case—you need not regret it, for you could not have done anything for the patient." With this consolatory observation I could not concur as the case was as favourable for operation as any we are likely to meet with. The value of fixed pain at one spot as indicative of ruptured or ulcerated bowel was exemplified in another case in which the intestine gave way by ulceration two or three weeks after a successful herniotomy. A man between thirty and forty years of age (if I rightly remember for I have not yet found the notes) was admitted for a strangulated left inguinal hernia, congenital and accompanied by retained testis. The sac and testis both lay outside the abdominal ring. On this I operated, removing the sac and testicle with the cord as high as the internal abdominal ring. The patient recovered quickly and the wound had healed when after a visit from friends who brought him forbidden luxuries he was seized with a pain in the abdomen and soon developed serious symptoms. He had marked pain and tenderness in the hypogastric region. I suspected that ulceration of the bowel had occurred and had a consultation with a senior colleague, who dissuaded me from interfering. The patient shortly died in a state of collapse, and exactly under the seat of pain the knuckle of intestine which had been in the hernial sac was found ulcerated and perforated. At the seat of operation the left inguinal canal was obliterated though no sutures had been used the peritoneum passing in an unbroken plane over the internal ring. In fact, there was a radical cure without suturing.

Here then, we have two cases in which fixed local pain and tenderness existed at the site of a breach in the intestine, and I think they teach us that we ought to explore under such circumstances when the rest of the history supports the probability of a rupture or perforation. Another condition which it ought to be within the resources of science to remedy is *rupture of the mesentery*. Three cases have come under my observation. In the first case, which occurred a good many years ago the injury was detected on the post-mortem table, and as I have not the notes of the case I cannot give the particulars. The other two cases were associated with hernia.

On Oct. 25th, 1886, a young man aged twenty six was admitted for a strangulated right inguinal congenital hernia. He had had the hernia for nine years and had worn a truss. In addition to the usual symptoms of strangulation he displayed marked signs of depression and collapse, although the hernia had only been down a few hours. About 1 P.M. I was sent for and met my colleague, Mr Reeve, on the steps of the hospital, and he assisted me at the operation, taxis under the anæsthetic not proving successful. On opening the sac some blood and bloody fluid were let out. The structure was at the internal ring and was readily divided with a guarded bistoury. Some omentum which lay in the sac was ligatured and excised and the congested intestine returned. As soon as this had been done blood began to flow down the canal, and it was difficult to determine its source. The omental stump a hepatic vein, and an abnormal epigastric or other artery crossed

¹⁴ Clinical Society's Transactions vol. xxiii. p 161.

the sac were thought of, but the bleeding did not come from any of these. I brought down the previously strictured intestine which lay near the ring and examined it, and the bleeding stopped. It did not occur to us to pull the intestine down further and look at the mesentery. On returning the intestine and leaving a clear passage the bleeding recommenced. The only course seemed to be to open the abdomen, and this was done by an incision between the umbilicus and the pubes. It was soon found that the bleeding came from a laceration of the mesentery. A large vein was ligatured, the effused blood removed by sponging, and the wound closed. Peritonitis supervened, and the patient died on Oct 29th, the fourth day. That the laceration of the mesentery had taken place before the patient's admission was indicated by the collapsed state of the patient and the blood in the sac. I have never found blood in the sac in any case of strangulated hernia where taxis has been applied in the hospital only. In this case it is right to mention that taxis was applied three times in the hospital—once in the receiving room, once in the wards after the application of ice and once by myself, but I do not think any of these efforts could have produced the laceration. The cold, clammy skin, the very feeble pulse and extreme abdominal pain on admission pointed to an antecedent cause. In the second case the mesentery was ruptured by contusion of an inguinal hernia.

Another carman, aged fifty three, was admitted on the morning of Jan 19th, 1887, complaining of great pain around the region of an old right inguinal hernia and in the abdomen generally as far as the external ring. The rupture itself was down and about as big as the fist. The patient had been jammed between a cart and a brick wall, his inguinal region and right ileum being the parts where the injury was most severe. There was a graze over the sacrum. So great was the tenderness over the rupture that the patient could not bear to be touched. His pulse was weak and quick, his temperature 100° 5'. In the early afternoon I visited the hospital, saw the patient and decided at once to explore, remembering a case which I had seen some years previously in which the intestine in a reducible hernia was ruptured by a squeeze or blow. On opening the sac a quantity of blood gushed out and the small intestine which it contained was found to be torn away from the mesentery. There was considerable difficulty in arresting the hæmorrhage from the various vessels which had been ruptured. The intestine itself was black and cold. On considering all the circumstances of the case, I decided to leave the involved intestine in the canal close to the surface of the wound and to allow nature to establish an artificial anus. Iodoform and cotton wool were applied to the wound. On the following day the patient experienced great tenderness in the abdomen and could not bear any pressure. There was tenderness also in the testicles, and there was ecchymosis in the perineum and scrotum. The temperature was normal, but the pulse was extremely small and rapid. He died in the afternoon from heart failure, due to acute peritonitis. The necropsy disclosed old and recent peritonitis.

In the foregoing case I might have resected the portion of intestine from which the mesentery had been torn, and I have no doubt that this would usually be the best practice to adopt. *A priori* it might have been expected that the free anastomosis of the intestinal vessels would have enabled a small portion of the intestine deprived of its mesentery to retain its vitality, but this separation for only a short distance is incompatible with the life of the part. Mr Greig Smith writes "In experiments on animals Rydygier and Madelung showed that gangrene was liable to occur in pieces of bowel protruding beyond the mesenteric attachment. Zesas, continuing and extending these experiments, found that gangrene always followed separation of the mesentery close to the divided bowel, but that no such result followed when the separation was made at a distance."¹⁵ In rupture of the mesentery a deleterious influence must be exercised by the effusion of blood into the peritoneal cavity, and the entrance of air in abdominal section or herniotomy must render the blood liable to decompose. To make an operation for ruptured mesentery complete, free irrigation of the peritoneum with warm water or a mild and warm antiseptic solution would probably be the proper course to adopt. For this purpose when the ruptured mesentery is found in a hernial sac it would be necessary to open the abdomen and wash out the peritoneum till the fluid came out quite clear. This step would prolong the operation and make it perhaps rather more

serious but it seems to me the best treatment to adopt, and irrigation of the cavity with water at a temperature from 100° to 110° has been found to be preventive of shock. Surgical text-books do not treat fully of this accident or the best mode of dealing with it.

Before concluding I wish to say a few words about *rupture of the urinary bladder*. Nearly ten years ago I published a work on this subject embodying papers which had been read at this Society. The book was written partly for the purpose of showing the futility of the ordinary treatment of the injury by catheterism &c and the advisability of performing abdominal section in cases of intra peritoneal rupture if the patients were to have a prospect of being rescued from almost inevitable death. At the time I wrote only two cases had been recorded in which this treatment was pursued—Mr Willett's and Mr Heath's. Both were unsuccessful chiefly because the method of suturing was defective. Both these surgeons brought the edges of the rent together, for at that time Lambert's suture was not in vogue, although Lambert introduced it in 1825 or 1826. In my monograph I quoted Vincent's plan of bringing serous surfaces together, but I am sorry to say that I did not then know its supreme importance. If I had, I should have insisted on the employment of this method, and this method alone. Having observed and been the first to point out that the edges of a bladder rent are often lacerated and contused, I thought that possibly if the edges were pared before being brought together they might unite better, possibly by first intention, and success be thus obtained. Hence, both in my monograph and in the article on Rupture of the Bladder in "Heath's Surgical Dictionary," I mentioned it in a tentative way. In my monograph I said "Whether the rent in the bladder should be sown up or not, with or without paring the edges, must be left to be decided by future experience." At the end of 1886, about two years after my work appeared, Sir William MacCormac published two cases of intra peritoneal rupture treated successfully by abdominal section, Lambert's suture having been used in each case. In 1887 Mr Walsham and Mr Holmes each had a successful case in which the same procedures were adopted. In reporting their cases both Sir William MacCormac and Mr Holmes referred to my tentative suggestion about paring the edges. Sir William MacCormac said "In ordinary traumatic cases of intra peritoneal rupture of the bladder the margins of the rent are generally lacerated in appearance and soon become swollen. Rivington recommends paring these edges off, but when they are fully inverted by the method of suture paring becomes unnecessary and needlessly adds to the difficulty and duration of the operation."¹⁶ Mr Holmes said "Paring the edges of the rent which Mr Rivington speaks of should be entirely reprobated."¹⁷ Both these excellent surgeons overlooked the fact that my suggestion as to paring the edges was made only in reference to the practice of uniting the edges of the rent as practised by Mr Willett and Mr Heath, and for that purpose I believe that it might have been a helpful suggestion. The fortunate introduction of Lambert's suture which was a main factor in securing success for abdominal section in cases of intra peritoneal rupture of the bladder, of course, superseded the basis on which my suggestion was made.

On one circumstance I may be allowed to feel great gratification. A Scotch critic of my work remarked that the chapter on treatment was the shortest in the book and that the treatment which I recommended for intra peritoneal rents might be summed up in one word, "laparotomy." It was necessary at that time to insist very forcibly on abdominal section and removal of the pints of effused urine as the only means of salvation, and I rejoice at the great success which has since attended this course of treatment even after the lapse of a longer interval than appeared to permit of it.

After a critical examination of all the reported cases of recovery after intra peritoneal rent by the *vis medicatrix naturæ* aided, perhaps, by catheter, irrigation and aspirator, I could not find one unequivocal case, and to day I wish to repeat the conviction in this modified form—viz., that there is not on record a single satisfactory case of recovery from the ordinary traumatic intra peritoneal vertical rent on the posterior surface of the bladder, varying from an inch to three or four inches long and admitting the urine contained in the distended viscus freely into the peritoneal cavity. Mr Morris's unique case does not come into this category. After

no-book appeared, the late Mr Cock put on record a supposed case of recovery after intra-peritoneal rupture, the subject of the accident being an elderly gentleman. The basis of the supposition was the fact that the patient had not passed urine for several hours before he recovered the blood in the hypogastric region, and it is consequently taken for granted that the bladder was full. There is no record of the patient having taken anything to drink since he last passed urine. His medical attendant passed a catheter but did not draw off any urine, and he concluded that the bladder was empty. The next day Mr Cock was called in and drew off readily from the bladder half a pint of urine, almost clear and even injected warm water and recovered the whole of the fluid. The patient made a rapid recovery save that he lost the power of voluntary micturition. That the bladder or its immediate vicinity had been contused is evident, and an effusion of blood occurred in the hypogastric region, but I think it is equally clear that if there was any rent at all it was not a rent into the peritoneal cavity. For the future, at all events, we may fairly hope to be delivered from fictitious claims of this kind, because Mr Christopher Heath has pointed out and employed a ready method of detecting a rupture—namely, by injecting the bladder. This method I employed in February 1880 in a case in which my house surgeon suspected that an intra-peritoneal rupture of the bladder had occurred. The particulars I must reserve for the second edition of my work, but I may say that I put the patient under an anæsthetic and injected twenty ounces of warm boracic solution. All the fluid was recovered nearly clear. It contained a small blood clot and it was ascertained that the bladder was whole but that the urethra was suitably torn.

It will be gathered from what I have said in regard to abdominal lesions that I advocate an earlier and a bolder treatment in certain conditions which can only be remedied by operative measures. I do not advocate indiscriminate exploration or abdominal section on moribund patients but exploration founded on a full consideration of all the facts and a reasonable probability that there is present a lesion which may prove capable of relief by operation. And I conclude with the words of Nathaniel Ward to the Hunterian Society in 1854: 'By scrutinising what we have done we come generally to know what to keep doing; treatment conducted on sound principles urging us to confidence, and treatment deviating from them warning us to caution.'

THE NERVOUS SYSTEM IN CHILDHOOD

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DR. MEECIE has descended in *Bacon* in a graphic and picturesque manner the differences which in his opinion exist between the nervous system of a child and that of an adult. Briefly expressed, his main contention would seem to be this. At the time of conception a certain amount of energy is implanted in the individual, and it is by the gradual withdrawal and utilisation of this that the evolution and maintenance of the body are accomplished. It follows from this that the amount of energy available at any given time is in inverse proportion to the age and the child has not only a much greater amount of energy stored up than the adult, but it is nearer at hand—in other words it is more easily evoked. This abundance of energy readily accounts for the frequency of convulsive disorders during infancy and for the common occurrence of hysteria and similar affections at the period of puberty. The infrequency of insanity during childhood is explained by the fact that the lowest strata of the nervous system, which only in the child are fully developed, are rendered most stable because they are evolved at a time when the greatest amount of energy is available. From the foregoing considerations it follows that certain things being the same, the length of life is longer or shorter in proportion to the initial amount of energy possessed, and to that Dr. Meechie looks for the explanation of the fact that children have greater powers of resistance than the parents. The very simplicity of this theory renders it very seductive.

and there is no doubt that, if true, it readily explains the very striking peculiarities and tendencies of the child's nervous system. But it seems to me that it does not go far enough—that a step is missing and for the following reasons. Whilst admitting that the *potential* energy of a developing individual is greater than that of the same arrived at adult life, it is difficult to conceive how during boyhood there is a greater expenditure of *actual* energy than during manhood. Consider the life history of a boy and that of a man. Compare his restricted environment, his narrow range of passion, his limited pursuits with what obtains in the adult, and it is scarcely credible that, even though a considerable amount of energy be used up in the evolutionary process, he consumes a greater relative quantity at any given time. Inasmuch, too, as the boy has greater powers of resistance than his father on account of the greater amount of energy available, it follows that the new born infant, with still greater energy at hand, has superior powers of resistance to the boy and by so much more than the man. This is clearly impossible. So far therefore, as concerns the expenditure of actual energy it would seem as if there were a gradual crescendo up to the time of perfect development, then possibly a stationary period, and then a diminishing down to the time of death.

At the risk of appearing prolix, I shall briefly mention some accidents in the life history of a child which have a certain bearing upon the elaboration of an alternative theory. At the time of birth the various nervous processes subserving nearly all the organic functions of the body are in a state of complete development (though as will be subsequently seen, they are not fully controlled). For this reason they are little liable to functional derangement, and it is only at a later period, when they become represented in higher levels of the brain and are influenced by emotion, that any of them are subject to disturbance. The physiological processes of organic life are practically the same in the infant and adult and though the heart and respirations decrease in frequency with advancing years a reason for this will be suggested later. In regard to the muscular apparatus although each muscle is capable of being put into action there is a complete absence of co-ordination, except in those muscles associated with the organic functions—e.g. respiration. Dr. Hughlings Jackson regards the brain as made up of three evolutionary levels: the lowest of which corresponds roughly with the basal ganglia and centres below, the middle with the motor area, and the highest with the pre-frontal region of the brain. Adopting this nomenclature it is recognised that at birth the lowest level, comprising the medullary centres and those representing the simplest combinations of muscular movements is in a state of almost complete development. One function that of the salivary glands is not developed until some months after birth, and it is instructive to notice that some protection is then needed on account of the excessive secretion of saliva. About this period convulsive disorders of all descriptions become very common, and in this connexion it may be noticed that twitching of individual muscles in the hands and feet often occurs during sleep. The sphincters although acting normally are not fully under control until some months after birth and are in many cases inefficiently controlled at night for many years, and in a certain number of cases by day also. Night terrors and somnambulism coincide with the evolution of mental processes and the various expressions of hysteria and chorea first make their appearance after the development of the emotions. Functional nerve disorders are thus extremely common during infancy and childhood and are easily evoked. The evolution, whether it be of function, muscular action, mental processes or of emotion is accompanied with a liability to disturbance. At a later period of life the exciting causes of these affections would be altogether ineffectual in producing the same results.

Why is it that the course of development is characterised by instability? It is hardly necessary to prove the existence of some such function as inhibition, for it is impossible to conceive how the various nervous processes of the body could be carried on for a moment without it. Life would consist of a single prolonged convulsion. Everything goes to show that every nerve centre from the simplest and lowest to the highest and most complex, is in a condition of health efficiently controlled. The nervous mechanism under any particular function of the body should respond to its appropriate stimuli and to these alone and to no other the means must be provided to keep the system adequately in check. When the nature of inhibition is done

¹ Guy's Hospital Reports, 1881, Serpiginous Pustules, &c.
² Memoir on Strangulated Hernia, 1884.

not matter here, it is sufficient that it exists. It has been proved that certain centres—e.g., the urinary—are again represented at a higher level of the nervous system from which they are controlled. It seems probable that the higher strata of the brain generally not only represent certain functions in themselves, but control the centres of an inferior level in addition. In this way is constituted the so called "hierarchy" of the nervous system, a term which implies that the centres are arranged in such a manner that they are not only of increased functional importance the higher the position they occupy in the nervous economy, but that they have additional duties to perform in the way of dominating and regulating the centres of inferior degree. As a rule, therefore, the lower the centre the more fully is it under control, the more stable does it become, and, as Dr Mercier points out, a further reason for this increased stability of the lower centres is to be found in the fact that they are developed at a time when the available energy is the greatest. If it were not that some of them at a later period are again represented at a higher level of the brain and are brought under the influence of certain emotions, they would scarcely be liable to any functional disturbance. In this way I have endeavoured to explain the nature of laryngismus¹ and that convulsions even are occasionally due to fright. The desire to micturate under the influence of fear is an example of the loss of inhibition of the urinary centre when under emotion. The heart for the same reason beats more rapidly, illustrating a deficiency of vagus inhibition. That the motor apparatus is similarly influenced is shown by the history of chorea and tremor of the hands, so often the result of fear. These considerations go to show that, although the lower centres in the child are fully controlled, they are subject to disturbing influences as soon as the emotions are developed. These indeed imply a want of psychological control of which the former are the physical expressions, and the exact seat of the resulting discharge depends upon the relative stability of the various centres. Inhibition thus plays a part of the first importance in the development and maintenance of the nervous system. By means of it the various functions of the body are adequately regulated and equilibrium of the nervous processes is preserved. It may break down at any step of the nervous hierarchy under the influence of any great stress or as the result of emotion, and it must be rare indeed for anyone not to experience a want of control at one time or another. It is only right to notice here that at any rate two examples occur of an exaggeration of the inhibitory process under the influence of emotion—viz., blanching of the face and a stoppage of the salivary secretion from fear. The conclusion, then, to be drawn from these remarks in regard to the lowest centres is that they are naturally well controlled in infancy and childhood, but are liable to disturbances of function, generally in the direction of loss of inhibition, as soon as the emotions are developed.

The next question that arises is, does inhibition proceed *pari passu* with the development of function? *A priori* considerations would lead to a negative answer, for it can be shown that some of the lower centres are controlled by others at a higher level, and reasons have been advanced for supposing that this is a general rule. If this be so it must follow that at the time of development every function is under deficient control, for this is a function of a higher level. Soltmann has indeed proved this to be so in regard to very young puppies, and many facts point to the same conclusion in man. The immediate result of the development of the salivary glands, as has been seen, is an overflow of saliva and it is only at a later period that they are presumably fully controlled. The same thing is strikingly illustrated in the case of the urinary centre, which is controlled by another in the medulla, so that section of the cord produces exactly the same incontinence of urine which exists in infants. This centre is evidently developed at a considerable period of time after the sphincters themselves are capable of normal function. I would regard the greater frequency of the pulse in childhood as another example of delayed inhibition, although it is many years before it is perfected. The function of the vagus is to act as a damper upon the heart's action, and it is therefore little in play when the pulsations are about 160 per minute in utero, but its activity increases in inverse proportion to the diminution in the frequency of the beats until they reach 70 or 72. The gradual decrease of respirations up to adult age is explicable on the same hypothesis. Another peculiarity of childhood is its liability to pyrexial outbursts—e.g., the tem-

perature often bounds up to 103° or 104° F, which apparently causes only slight inconvenience. A dose of *santonine* is given, an ascarrus is ejected, and the temperature falls. Now a heat centre almost certainly exists, and I take it that it is its development ahead of its checking apparatus which renders it liable to disturbance by means which are ineffectual in the adult. In regard to the muscular twitchings during an infant's sleep, it may be noticed that they occur in the fingers and more rarely in the toes, wrists and ankles. Exactly the same thing may be seen in a sleeping dog. The cause for this may possibly be found in the fact that the development of the brain of the infant is chiefly in the direction of the centres underlying these movements, which are at that time, therefore, feebly controlled. The occurrence of similar twitchings during sleep only is explicable on the supposition, as I have suggested elsewhere,² that inhibition is then less perfect than in the waking state. The frequency of laryngismus, tetany and convulsions during infancy is probably due to this evolution of function ahead of its checking apparatus. If this be so, it is manifest how all important is a due development of this function of inhibition. If it do not preserve a certain definite relationship with the evolution of the various functions of the body, a liability to convulsive disorders is engendered which may leave its impression upon the whole life history of the individual. Regarded from this point of view, precocity is not a desirable attribute, for it generally, if not always, happens in these children that development proceeds at such a rate that inhibition does not preserve its relative position in the process and lags behind. Thus the characteristic of precocity is instability. And so it is often with genius, of which precocity may be supposed to be the youthful equivalent, inhibition frequently fails to keep pace with the excessive development of function. It is inhibition—the power of control—which parents should seek to cultivate in their children far rather than development of function, for this is possible later in life, whereas control, once lost, may never be regained. In childhood every thing should be done to place the individual under the most favourable conditions of existence, it should, if possible, be suckled and have plenty of fresh air and exposure to sunlight. The absence of these tends to the development of rickets, which seems in a peculiar way to retard the development of inhibition, as witness the proneness to convulsive disorders of all descriptions. In a healthy child there should be no such predisposition, for although control is much less complete than in the adult the conditions of life are so much more simple, the demands upon it so much less violent, that under ordinary circumstances the amount of inhibitory power should be ample to ensure a perfectly even existence.

The highest centres of the brain are liable to grave disturbance at the onset of the exanthemata and other febrile disorders. In childhood the highest then developed centres are the motor, and hence convulsions often mark the commencement of fever, whereas at a later period it is initiated by delirium. *Apocryphos* of this, it may be noted that, in precocious children, delirium may accompany such a slight pyrexia as that which accompanies an ordinary tonsillitis. The occurrence of night terrors, too, coincides with the early stages of mental development, and at a later period, when a new phase of life is introduced by the development of emotions, hysteria, in all its protean aspects, assumes an important place in nosology. Many of the manifestations of this disorder are so clearly due to a want of controlling power that it seems only a fair induction to assume that all are of the same nature. It would appear, therefore, that the development of mental processes, equally with that of the motor, is signalled by a condition of instability similarly arising from a deficiency of inhibitory power. Chorea is another example of loss of control occurring at this age, it is peculiar in that there is a strong hysterical tendency, illustrating psychological deficiency of inhibition coexisting with manifest motor loss of control. So great is the mental defect in some cases of chorea that actual insanity has resulted, and I have recorded one case occurring in a child of seven years. Insanity, however, is extremely rare in children, not only because of the exuberance of energy, which ensures the stability of the then developed centres but on account of the limited sphere of their surroundings and their non-liability to be swayed by the different passions and emotions which agitate the nervous system of adults.

To sum up the nervous functions of the new born infant consist entirely of those subserving and regulating the purely vegetative processes of the body. These are for the most part situated in the spinal cord and the region of the medulla oblongata. The motor and the pre frontal areas of the brain are yet an unexplored region, a mass of protoplasm and neuroglia, which is soon to be channelled in all directions by communicating strands of extreme complexity. The younger the child the more nearly does it approach the type of a purely reflex organism, composed of a series of segments. For purposes of illustration the brain of an adult may be compared with the Imperial Government of our own country, which exercises absolute and undisputable control over every unit of population. It is made up of a Home Secretary, Minister for War, Chancellor of the Exchequer &c., and every question of Imperial moment is determined by it alone. Matters of purely local interest, on the other hand, are settled by the county councils, whose duties are modified or enlarged by the Central Government. In a similar manner the nervous centre of a reflex arc regulates the functions of that particular segment and is in a way autonomous. The nervous system of a new born infant may be regarded as constituted of a series of reflex arcs arranged along the spinal cord and medulla. These centres carry on the vegetative processes of life and represent muscles in their simplest combinations. Reflex action is thus the chief feature in the nervous processes at this period, and its manifestations are the more pronounced as the highest restraining centres are as yet undeveloped. Of this the cremasteric reflex is an admirable example. In the adult it is only obtained by tickling the skin over a somewhat restricted area on the inner side of the thigh, whilst in the infant it is easily evolved by tickling the skin on the lower third of the leg, and in some cases even the testicle on the opposite side is drawn up, though to a lesser extent. Thus not only is the reflex sensory area more extensive in the child, but the discharge of the centre upon excitation is at once more decided and widespread. It is not surprising to find reflex disturbances extremely common during the first few years of life. To express this in the words of the above simile, the arrangement of reflex arcs with their respective areas before and immediately after birth may be compared with government by county councils, which is amply sufficient to carry on the simple needs of the economy. With the increasing complexity however of the nervous processes, the enlarging environment and relationships of life, it becomes necessary to have a central government in order to regulate and control the lower centres and so carry on the various and diverse functions of adult life. From what has been said of the cremasteric reflex it would seem that the inhibition of reflex centres is exerted in three directions: the sensory area from which the motor act proceeds is diminished, the resulting contraction is lessened, and the range of action in the centres is limited. The consideration of the reflex centres (for what is true of the cremasteric probably applies also to the others though less easily demonstrable) leads to the conclusion, already arrived at, that the function of the centres is developed ahead of its appropriate checking apparatus. Of the centres already developed at birth I have shown that those associated with the superficial reflexes—the heart, the respiration, micturition and defecation—are inefficiently controlled compared with what obtains in the adult. In regard to the deep reflexes Eulenbergs asserts³ that the knee-jerks are well marked at birth but decrease gradually in the course of the following few weeks. In regard to the absence of controlling power by the brain, it is worthy of remark that the pyramidal tracts down which cerebral impulses proceed are in an undeveloped state during infancy, and are only evolved when the brain takes over the control of the spinal centres. Coincidentally with the evolution of the brain the centres already developed at birth become more and more “damped down” and are rendered more stable. As has been pointed out, however, certain of them become liable to disturbance when the emotions are developed and nearly always in the direction of loss of control. If it be true that the lowest centres of all are incompletely controlled at birth, and that, too, when they are in a forward state of development, how great must be the deficiency of inhibition in those higher centres which are developed at a much later period. The importance of the recognition of the fact that centres develop ahead of their appropriate inhibitory apparatus cannot be over estimated.

Not only does it explain the instability of the infant's brain, but it emphasises, perhaps more than anything else could, the folly of forcing the minds of the young. By so doing a most certain foundation is laid for the development of neuroses which may mar the whole subsequent life of the individual. The fact that girls are generally more precocious than boys would suggest that greater care is necessary in their training, for proportionally with their precocity there is an increased liability to chorea, hysteria and other nervous affections having their foundation in a defect of inhibition. The moral of this paper is to restrain a precocious child, do not cram a backward one, but with a judicious education of the mind let them indulge in healthy recreation and develop their motor centres before those of a much higher level.

Bournemouth.

VISCERAL TUBERCULOSIS IN LEPROSY.

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FOR some time past it has been well known to observers that tubercles generally diffused through the viscera and often breaking down into large cavities in the lungs are frequently found in necropsies on lepers. Caseous bronchial and mesenteric glands are also by no means uncommon. Speculation has naturally been aroused as to the nature of these tubercles, and various opinions have been expressed. I have already discussed the subject fully elsewhere,¹ and I propose here to describe a few recent experiments which seem to settle the question.

CASE 1.—A creole of mixed race aged twenty eight was admitted to the Trinidad Leper Asylum on Dec. 1st, 1875, with mixed leprosy of ten years' duration. After her admission the tubercles became absorbed and the disease remained stationary, the patient being in fair health. On Dec. 12th, 1891—sixteen years after admission—chest symptoms were noticed. These gradually increased and she died of phthisis on Aug. 10th, 1892. The necropsy next day showed the lungs to be full of tubercles. At the apices these were yellow, caseating and about the size of peas. Lower down, the tubercles were grey and milky. The spleen was lardaceous and the kidneys showed mixed tubal and interstitial change. The median nerves were slightly enlarged.

Experiment 1.—An incision was made over the nape of the neck of a guinea pig, and a piece of one of the pulmonary tubercles, about one eighth of a cubic inch in size, was inserted beneath the skin, the incision being closed with a silk suture. On Nov. 11th, 1892, there was an ulcer about half an inch long at the site of inoculation. It was covered with a yellow scab and there was much thickening round it. Behind each ear was a globular mass about half an inch in diameter. Further back behind the left ear was a small mass about the size of a pea. This was punctured and found full of caseous material. Some of the contents were stained with magenta, and under one twelfth a few bacilli were found which were indistinguishable from tubercle bacilli. In the left axilla was a similar mass and there was a nodule about the size of a small shot in the right axilla. On Nov. 23rd the nodule behind the left ear had burst and that further back had almost disappeared. On Dec. 4th the guinea pig was killed. There was still an unhealthy looking indolent ulcer at the site of inoculation covered with a loose scab. Behind the ears were caseous masses. The axillary glands were enlarged and one in the left axilla was suppurating. The lungs were full of translucent nodules about one eighth of an inch in diameter. In the spleen were several mottled dark red and yellow nodules about one-third of an inch by a quarter of an inch in size. The other viscera were normal. Fresh cover glass preparations from the nodules in the spleen and lungs showed, when stained with magenta, bacilli indistinguishable from those of tubercle. Tubes of glycerine-agar were inoculated from the nodules in the lungs and from the caseous axillary gland, but no culture of tubercle bacilli was obtained.

Experiment 2.—Another guinea pig was inoculated in exactly the same way from the same patient as the last. On Nov. 11th, 1892, there was a scab about a quarter of an inch

³ Charcot. Leçons sur les Maladies du Système Nerveux, tome II, 22.

¹ British Journal of Dermatology, February 1890, p. 53. Guy Hospital Reports, vol. XLVIII, 1891, p. 38.

long at the site of inoculation and much thickening round the incision. Behind each ear was a lump about the size of a pea. The axillary glands on both sides and one right inguinal gland were enlarged to the size of No 4 shot. On March 6th, 1893 the guinea pig died. At the site of inoculation was a circular ulcer about half an inch in diameter. Its edges were undermined, it was covered with a hard scab and there was thickening round. Behind the right ear was a lump about half an inch in diameter, which on incision was found to be full of thick caseous pus. A left inguinal gland was enlarged and caseating. The lungs were full of translucent nodules varying in shape and ranging in size from a small shot to No 3 or 4. There were similar masses in the liver, but here they were of a bright yellow colour. They were more numerous along the thin anterior edge and one nodule was breaking down into pus. The spleen, kidneys and intestines were healthy.

CASE 2—A negress aged seventeen was admitted to the Trinidad Leprosy Asylum on Nov 5th, 1887, with mixed leprosy of four years' duration. On admission she had suspicious looking circular ulcers and an irregular granulating surface on the left leg. Clostrisation progressed rapidly under iodide of potassium and perchloride of mercury. Soon after she was admitted she had an outbreak of leprosy tubercles on the face, accompanied by fever. This soon passed off and the tubercles on the face and hands ulcerated. During her stay in the asylum the patient suffered frequently from fever and pains in the limbs, also from iritis on two occasions. In April, 1892, a large sloughing ulcer formed over the right shin. After this chest symptoms became pronounced and she gradually sank. She died from hæmoptysis on Aug 30th. The necropsy next day showed old healed ulcers on the legs and distortion and loss of substance in the fingers and toes. Most of the tubercles had been absorbed. The median nerves were slightly thickened. The lungs were full of tubercles of various sizes, at the left apex was a ragged cavity about the size of a Tangerine orange and traversed by thickened vessels, it contained blood clot and evidence of recent hæmorrhage, at the back of the right lung was a smaller cavity. There were tubercles on the parietal pleura. The larynx was thickened and ulcerated and the vocal cords were almost destroyed. The spleen and kidneys contained several small yellow tubercles, and there were one or two in the liver. There were tubercles on the peritoneum.

Experiment 3—A guinea pig was inoculated beneath the nape of the neck with a piece of tuberculous lung from the above patient about one sixteenth of a cubic inch in size. On Nov 11th, 1892, there was an indolent ulcer at the site of inoculation about one inch long. There was much thickening round it. In each axilla were two enlarged glands varying in size from a No 6 shot to a pea. There was also an enlarged gland in each groin. The guinea pig died on Dec 10th, the ulcer at the site of inoculation was in exactly the same condition as a month ago, the cervical and axillary glands were enlarged, caseous and about half an inch in diameter, the lungs were full of small translucent nodules about one-eighth of an inch in diameter, there were small yellow nodules in the liver, the other viscera were healthy. Numerous bacilli, indistinguishable from tubercle bacilli, were found in the nodules of the liver and a few in the pulmonary deposits.

Experiment 4—Another guinea pig was similarly inoculated from the same patient. On Nov 11th, 1892 there was an indolent ulcer three quarters of an inch long at the site of inoculation. It was scabbed over and there was thickening around. In the left axilla was an enlarged gland about one inch by half an inch in size. In the right axilla was a gland about the size of a No 4 shot, and in the left groin was a gland the size of a pea. On Jan 1st, 1893 the guinea pig died. The ulcer at the site of inoculation was about the same. The lungs showed irregular translucent masses precisely similar to those in the other guinea pigs. The liver was full of bile stained deposits like those already described. There were pale, irregular masses in the spleen. The axillary glands on both sides and the left inguinal glands were enlarged and caseating. The kidneys and intestines were healthy. In these four guinea pigs inoculated from two different patients the lungs presented the same appearances. In each case there was an indolent, thickened ulcer at the site of inoculation, and caseating glands were common to all of them. The only variations observed were in the other viscera. In two cases only the liver showed nodules, in one case the spleen only,

and in one case both liver and spleen. Bacilli indistinguishable from those of tubercle were also found in several of the specimens examined. It is well known that attempts to inoculate guinea pigs with leprosy have always failed, and it therefore seems justifiable to conclude that all these guinea pigs suffered from tuberculosis set up by inoculation with tuberculous material from the lungs of lepers.

I asked Dr Slater to examine some of the specimens. This he has kindly done, and he tells me that he believes the lesions to be those of tuberculosis. He is going to show sections from the viscera and some of the original specimens at the Pathological Society.

It may, perhaps, be objected that these guinea pigs might have been suffering from tuberculosis before inoculation. This, I think, is to say the least, extremely unlikely, for I have examined the bodies of many guinea pigs after inoculation with leprosy material and have never before found tuberculosis.

There remains a much larger question, which I shall only allude to very briefly at present. Are leprosy and tuberculosis due to the same bacillus, modified perhaps in the case of the former by some difference of environment? This theory was advanced tentatively by Danielssen² some time ago, and certainly every year the difficulty in differentiating the two bacilli seems to increase. They respond to almost the same colour tests and the alleged difference in size cannot be relied on if, as Danielssen asserts, leprosy bacilli from Spain are larger than those from Norway. I have already³ called attention to the frequency with which in cases of tuberculated or mixed leprosy there is rapid absorption of cutaneous tubercles during the last few weeks of life. In these cases the necropsy shows the viscera to be full of milky and yellow tubercles. The following case, which terminated a few days ago is the most typical I have seen.

CASE 3—A negro aged eight was admitted to the Trinidad Leprosy Asylum on June 3rd, 1889, with mixed leprosy of eighteen months' duration. There were isolated tubercles on the face, legs and right arm. These were excised and cauterised with temporary success.⁴ Fresh crops of tubercles, however, soon appeared, and in a year's time he was worse than on admission. In December, 1890, the tubercles began to ulcerate. In December, 1892, there was a constant high temperature, and on Jan 17, 1893, it was noted that the tubercles were disappearing. Absorption went on rapidly the fever continuing, but there was hardly any cough. He died on March 1st, 1893. The necropsy showed much wasting of the body. Nearly all the cutaneous tubercles were absorbed. The median nerves were enlarged. Both lungs were filled with milky tubercles. The spleen was full of bright yellow tubercles, some of them as large as peas. There were numerous milky tubercles in the liver, and a few in the kidneys. The bronchial and mesenteric glands were caseous. Guinea pigs were inoculated with pieces of tubercle from the liver and spleen. This case seems to suggest that the visceral tubercles were the result of absorption of cutaneous tubercles during the last few weeks of life. It may, perhaps, be objected that the bronchial and mesenteric glands could hardly become caseous in that time, but I would point out that in the first guinea pig inoculated there was extensive caseation in three months. If then the absorption of cutaneous leprosy tubercles produces visceral nodules which, when inoculated in guinea pigs set up tuberculosis, there exists undoubted tuberculosis derived indirectly from leprosy. It is evident that the last word has not been said, and I hope that further experiments, which I am now making, will throw more light on the subject.

The present position may be stated as follows. 1. Inoculation experiments have shown that the visceral nodules in lepers are tuberculous and not leprosy. 2. It is quite possible that leprosy and tuberculosis may be caused by the same bacillus, but this has not yet been proved.

Trinidad.

² Archives Roumaines, January, 1890, p 10.

³ Op cit.

⁴ Report on the Trinidad Leprosy Asylum, 1890, p 23.

FOOTBALL CASUALTIES—During a match on March 18th, at Ballynally, between the Ulster second eleven and Cliftonville second eleven, a player fractured his leg. Last week, in a match at Barrow, a player of the Barrow first team sustained a fracture of his clavicle.

A PLEA FOR THE OPERATION OF PARACENTESIS ABDOMINIS IN THE TREATMENT OF ASCITES

By SURGEON MAJOR A. S. FAULKNER,

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THE presence of ascitic fluid exists in the majority of cases as a symptom of some form of chronic disease and is especially prevalent amongst the ill-nourished and emaciated. Very rarely, indeed, do we see it constituting an actual unexplained affection of the peritoneum. It is not my intention to refer to the etiology of ascites; its causes are numerous. My object is to draw attention to the incontestable fact that large numbers of these cases are treated as if the presence of the ascitic fluid constituted an actual disease, instead of being treated directly as a localised symptom of some recognised malady. I should like to add my experi-

ence in which I tapped the abdomen during 1831 when in India. The majority of the cases it will be seen were cases of splenic ascites, in extremely common symptom of a disease characterised by a hypertrophied spleen and which is essentially prevalent amongst those who are ill-nourished and have been subjected for years to malarial influences in a tropical climate. Of these cases one man was tapped four times, another three times and two others twice each, and on several the operation was only resorted to once. The remaining cases were of hepatic origin and in one instance a patient was tapped three times with satisfactory results. The indications for the removal of ascitic fluid are usually referable to the additional symptoms caused by the mechanical pressure of the fluid on the thoracic and abdominal viscera. The operation itself being so simple it is not worthy of a detailed description. There are, however, one or two important practical points to be noted in its performance. Of these the complete evacuation of the bladder immediately before the operation is, perhaps, the most important. It sometimes happens during an operation that the fluid suddenly ceases to flow through the cannula, the cause of this is that the internal aperture of the cannula gets blocked by the entrance of a portion of

TABLE OF CASES TREATED BY PARACENTESIS ABDOMINIS IN 1831

No.	Age	Sex	Disease.	ANALYSIS OF FLUID REMOVED						Remarks.
				Colour	Quantity	Reaction	Sp. gr.	Albumen	Sugar	
1	50 years	Male	Splenic ascites	—	—	—	—	—	Nil	
2	41 years	Male	" "	Straw	14 1/2 pints	Neutral	1003	Nil	"	Single operation
3	40 years	Male	" "	Straw	8 pints	Dx.	1008	Present	"	
4	3 years	Child	" "	Rice water	10 ounces	Slightly acid	1004	Nil	"	
5	33 years	Female	" "	Straw	10 pints	Neutral	1015	Present	"	
6	50 years	Male	" "	Straw	10 pints	Slightly acid	1007	Dx.	"	Operation repeated twice.
7					14 pints	Dx.	1005	Loaded	"	
8					10 pints	Neutral	1004	Dx.	"	
9	27 years	Female	" "	Pale straw	7 1/2 pints	Dx.	1006	Do	"	
10	45 years	Male	" "	1 pale straw	10 pints	Neutral	1009	Dx.	"	Operation repeated three times.
11				1 ed at first	10 pints	Dx.	1000	Dx.	"	
12				Slightly red	5 pints	Dx.	1010	Dx.	"	
13				Straw	5 1/2 pints	Dx.	1005	Nil	"	
14	40 years	Male	" "	Yellow	5 pints	Dx.	1003	Present	"	Operation repeated four times.
15				—	—	—	—	—	"	
16				1 pale straw	20 pints	Neutral	1007	Present	"	
17	40 years	Male	Hepatic ascites	Light straw	10 pints	Dx.	1005	Loaded	"	Single operation.
18	33 years	Male	" "	Straw	10 pints	Dx.	1005	Nil	"	Dx.
19	40 years	Male	" "	Dark straw	10 pints	Slightly acid	1011	Present	"	Operation repeated three times.
20				Dark straw	17 1/2 pints	Dx.	1010	Dx.	"	
21				Yellow	2 pints	Neutral	1012	Loaded	"	

* In each case all fluid was removed at one sitting.

ence of the treatment of ascites by the direct method of removing all the fluid at one sitting from the peritoneum, and to this I will confine my remarks without reference to the constitutional treatment of the several diseases of which it forms a symptom. Before submitting an epitome of cases I will state the reasons on which I based my decision to adopt this method of treatment. 1. Because ascites, no matter from what cause its presence may be excited, is a symptom of a grave and urgent nature and is usually developed in the more advanced stages of the disease with which it is complicated. 2. Because its presence causes pain and much unnecessary discomfort to the patient. 3. Because any other modes of treatment such as the administration of purgatives, diaphoretics, diuretics, absorbents &c. are utterly untrustworthy and greatly add to the exhausted and debilitated condition of the patient. 4. Because the operation of paracentesis abdominis is practically devoid of danger and it can be repeated several times on the same subject with advantage. 5. Because the result of the operation benefits the patient and improves his general condition and thereby tends to augment the chances of curing his actual constitutional disease by subsequent treatment.

The following tabular statement gives the details of cases

in which I tapped the abdomen during 1831 when in India. The majority of the cases it will be seen were cases of splenic ascites, in extremely common symptom of a disease characterised by a hypertrophied spleen and which is essentially prevalent amongst those who are ill-nourished and have been subjected for years to malarial influences in a tropical climate. Of these cases one man was tapped four times, another three times and two others twice each, and on several the operation was only resorted to once. The remaining cases were of hepatic origin and in one instance a patient was tapped three times with satisfactory results. The indications for the removal of ascitic fluid are usually referable to the additional symptoms caused by the mechanical pressure of the fluid on the thoracic and abdominal viscera. The operation itself being so simple it is not worthy of a detailed description. There are, however, one or two important practical points to be noted in its performance. Of these the complete evacuation of the bladder immediately before the operation is, perhaps, the most important. It sometimes happens during an operation that the fluid suddenly ceases to flow through the cannula, the cause of this is that the internal aperture of the cannula gets blocked by the entrance of a portion of

the omentum. In such cases a blunt pointed probe ought to be introduced through the cannula and the protruding omentum pushed gently inside at the same time by a slight movement the cannula should be directed in a slightly oblique line so as to obviate a recurrence of the accident. If ascites is complicated with general anasarca (affecting usually the lower extremities and the scrotal sac) it is my routine method of treatment to extend the principle of direct removal of fluid to these regions by making innumerable surface punctures all over the lower extremities and scrotum. This simple procedure combined with the elevation of the feet, a suspensory bandage to the scrotum and complete rest in bed in the recumbent position gives most satisfactory results and in a very short time the patient is in a better condition for the performance of the major operation.

I have been induced to offer the above observations by a perusal of Dr W. B. Cheesle's remarks on the treatment of ascites,* and as a result of my own experience I am able to endorse his opinions and advocate early paracentesis abdominis in the treatment of ascites.

long at the site of inoculation and much thickening round the incision. Behind each ear was a lump about the size of a pea. The axillary glands on both sides and one right inguinal gland were enlarged to the size of No. 4 shot. On March 6th, 1893 the guinea pig died. At the site of inoculation was a circular ulcer about half an inch in diameter. Its edges were undermined, it was covered with a hard scab and there was thickening round. Behind the right ear was a lump about half an inch in diameter, which on incision was found to be full of thick caseous pus. A left inguinal gland was enlarged and caseating. The lungs were full of translucent nodules varying in shape and ranging in size from a small shot to No. 3 or 4. There were similar masses in the liver, but here they were of a bright yellow colour. They were more numerous along the thin anterior edge and one nodule was breaking down into pus. The spleen, kidneys and intestines were healthy.

CASE 2.—A negress aged seventeen was admitted to the Trinidad Lepor Asylum on Nov. 5th, 1887, with mixed leprosy of four years' duration. On admission she had suspicious looking circular ulcers and an irregular granulating surface on the left leg. Clostrisation progressed rapidly under iodide of potassium and perchloride of mercury. Soon after she was admitted she had an outbreak of leprosy tubercles on the face, accompanied by fever. This soon passed off and the tubercles on the face and hands ulcerated. During her stay in the asylum the patient suffered frequently from fever and pains in the limbs, also from irritis on two occasions. In April, 1892, a large sloughing ulcer formed over the right shin. After this chest symptoms became pronounced and she gradually sank. She died from hæmoptysis on Aug. 30th. The necropsy next day showed old healed ulcers on the legs and distortion and loss of substance in the fingers and toes. Most of the tubercles had been absorbed. The median nerves were slightly thickened. The lungs were full of tubercles of various sizes, at the left apex was a ragged cavity about the size of a Tanager's orange and traversed by thickened vessels, it contained blood clot and evidence of recent hæmorrhage, at the back of the right lung was a smaller cavity. There were tubercles on the parietal pleura. The larynx was thickened and ulcerated and the vocal cords were almost destroyed. The spleen and kidneys contained several small yellow tubercles, and there were one or two in the liver. There were tubercles on the peritoneum.

Experiment 3.—A guinea pig was inoculated beneath the nape of the neck with a piece of tuberculous lung from the above patient about one sixteenth of a cubic inch in size. On Nov. 11th, 1892, there was an indolent ulcer at the site of inoculation about one inch long. There was much thickening round it. In each axilla were two enlarged glands varying in size from a No. 6 shot to a pea. There was also an enlarged gland in each groin. The guinea pig died on Dec. 10th, the ulcer at the site of inoculation was in exactly the same condition as a month ago, the cervical and axillary glands were enlarged, caseous and about half an inch in diameter, the lungs were full of small translucent nodules about one eighth of an inch in diameter, there were small yellow nodules in the liver, the other viscera were healthy. Numerous bacilli, indistinguishable from tubercle bacilli, were found in the nodules of the liver and a few in the pulmonary deposits.

Experiment 4.—Another guinea pig was similarly inoculated from the same patient. On Nov. 11th, 1892 there was an indolent ulcer three quarters of an inch long at the site of inoculation. It was scabbed over and there was thickening around. In the left axilla was an enlarged gland about one inch by half an inch in size. In the right axilla was a gland about the size of a No. 4 shot, and in the left groin was a gland the size of a pea. On Jan. 1st, 1893, the guinea pig died. The ulcer at the site of inoculation was about the same. The lungs showed irregular translucent masses precisely similar to those in the other guinea pigs. The liver was full of bile stained deposits like those already described. There were pale, irregular masses in the spleen. The axillary glands on both sides and the left inguinal glands were enlarged and caseating. The kidneys and intestines were healthy. In these four guinea pigs inoculated from two different patients the lungs presented the same appearances. In each case there was an indolent, thickened ulcer at the site of inoculation, and caseating glands were common to all of them. The only variations observed were in the other viscera. In two cases only the liver showed nodules, in one case the spleen only,

and in one case both liver and spleen. Bacilli indistinguishable from those of tubercle were also found in several of the specimens examined. It is well known that attempts to inoculate guinea pigs with leprosy have always failed, and it therefore seems justifiable to conclude that all these guinea pigs suffered from tuberculosis set up by inoculation with tuberculous material from the lungs of lepers.

I asked Dr. Slater to examine some of the specimens. This he has kindly done, and he tells me that he believes the lesions to be those of tuberculosis. He is going to show sections from the viscera and some of the original specimens at the Pathological Society.

It may, perhaps, be objected that these guinea pigs might have been suffering from tuberculosis before inoculation. This, I think, is to say the least, extremely unlikely, for I have examined the bodies of many guinea pigs after inoculation with leprosy material and have never before found tuberculosis.

There remains a much larger question, which I shall only allude to very briefly at present. Are leprosy and tuberculosis due to the same bacillus, modified perhaps in the case of the former by some difference of environment? This theory was advanced tentatively by Daniëlsen² some time ago, and certainly every year the difficulty in differentiating the two bacilli seems to increase. They respond to almost the same colour tests and the alleged difference in size cannot be relied on if, as Daniëlsen asserts, leprosy bacilli from Spain are larger than those from Norway. I have already³ called attention to the frequency with which in cases of tuberculated or mixed leprosy there is rapid absorption of cutaneous tubercles during the last few weeks of life. In these cases the necropsy shows the viscera to be full of milky and yellow tubercles. The following case, which terminated a few days ago, is the most typical I have seen.

CASE 3.—A negro aged eight was admitted to the Trinidad Lepor Asylum on June 3rd, 1889, with mixed leprosy of eighteen months' duration. There were isolated tubercles on the face, legs and right arm. These were excised and cauterised with temporary success.⁴ Fresh crops of tubercles, however, soon appeared, and in a year's time he was worse than on admission. In December, 1890, the tubercles began to ulcerate. In December, 1892, there was a constant high temperature, and on Jan. 17, 1893, it was noted that the tubercles were disappearing. Absorption went on rapidly, the fever continuing, but there was hardly any cough. He died on March 1st, 1893. The necropsy showed much wasting of the body. Nearly all the cutaneous tubercles were absorbed. The median nerves were enlarged. Both lungs were filled with milky tubercles. The spleen was full of bright yellow tubercles, some of them as large as peas. There were numerous milky tubercles in the liver, and a few in the kidneys. The bronchial and mesenteric glands were caseous. Guinea pigs were inoculated with pieces of tubercle from the liver and spleen. This case seems to suggest that the visceral tubercles were the result of absorption of cutaneous tubercles during the last few weeks of life. It may, perhaps, be objected that the bronchial and mesenteric glands could hardly become caseous in that time, but I would point out that in the first guinea pig inoculated there was extensive caseation in three months. If then the absorption of cutaneous leprosy tubercles produces visceral nodules which, when inoculated in guinea pigs set up tuberculosis, there exists undoubtedly tuberculosis derived indirectly from leprosy. It is evident that the last word has not been said, and I hope that further experiments, which I am now making, will throw more light on the subject.

The present position may be stated as follows. 1. Inoculation experiments have shown that the visceral nodules in lepers are tuberculous and not leprosy. 2. It is quite possible that leprosy and tuberculosis may be caused by the same bacillus, but this has not yet been proved.

Trinidad

¹ Archives Roumaines, January, 1890 p. 10.

² Op. cit.

³ Report on the Trinidad Lepor Asylum 1890 p. 23

FOOTBALL CASUALTIES.—During a match on March 18th, at Ballynascagh, between the Ulster second eleven and Cliftonville second eleven, a player fractured his leg. Last week, in a match at Barrow, a player of the Barrow first team sustained a fracture of his clavicle.

A PLEA FOR THE OPERATION OF PARACENTESIS ABDOMINIS IN THE TREATMENT OF ASCITES

By SURGEON MAJOR ALEX. S. FAULKNER,
F.R.C.S. EDIN.,
INDIAN MEDICAL SERVICE.

THE presence of ascitic fluid exists in the majority of cases as a symptom of some form of chronic disease and is especially prevalent amongst the ill nourished and emaciated. Very rarely, indeed, do we see it constituting an actual, uncomplicated affection of the peritoneum. It is not my intention to refer to the etiology of ascites, its causes are numerous. My object is to draw attention to the incontestable fact that large numbers of these cases are treated as if the presence of the ascitic fluid constituted an actual disease, instead of being treated directly as a localised symptom of some recognised malady. I should like to add my experi-

ence in which I tapped the abdomen during 1891, when in India. The majority of these, it will be seen, were cases of splenic ascites—an extremely common symptom of a disease characterised by a hypertrophied spleen and which is essentially prevalent amongst those who are ill nourished and have been subjected for years to malarial influences in a tropical climate. Of these cases one man was tapped four times, another three times and two others twice each, and on several the operation was only resorted to once. The remaining cases were of hepatic origin and in one instance a patient was tapped three times with satisfactory results. The indications for the removal of ascitic fluid are usually referable to the additional symptoms caused by the mechanical pressure of the fluid on the thoracic and abdominal viscera. The operation itself being so simple, it is not worthy of a detailed description. There are however one or two important practical points to be noted in its performance. Of these the complete evacuation of the bladder immediately before the operation is perhaps, the most important. It sometimes happens during an operation that the fluid suddenly ceases to flow through the cannula, the cause of this is that the internal aperture of the cannula gets blocked by the entrance of a portion of

EPITOME OF CASES TREATED BY PARACENTESIS ABDOMINIS IN 1891

No.	Age.	Sex.	Diseases.	ANALYSIS OF FLUID REMOVED						Remarks.*
				Colour.	Quantity.	Reaction.	Sp. gr.	Albumen.	Sugar.	
1	50 years	Male	Splenic ascites	—	—	—	—	—	Nil	Single operation.
2	51 years	Male	"	Straw	14 pints	Neutral	1006	Nil	"	
3	49 years	Male	"	Straw	6 pints	Do	1003	Present	"	
4	8 years	Child	"	Rice-water	10 ounces	Slightly acid	1004	Nil	"	
5	33 years	Female	"	Straw	16 pints	Neutral	1005	Present	"	Operation repeated twice
6	30 years	Male	"	Straw	16 pints	Slightly acid	1007	Do	"	
7	57 years	Female	"	Pale straw	14 pints	Do	1003	Loaded	"	
8					10 pints	Neutral	1004	Do	"	
9					8 pints	Do	1006	Do	"	
10	45 years	Male	"	Pale straw	16 pints	Neutral	1009	Do	"	Operation repeated three times
11				Red at first	16 pints	Do.	1020	Do	"	
12				Slightly red	8 pints	Do.	1010	Do.	"	
13	40 years	Male	"	Straw	24 pints	Do	1006	Nil	"	Operation repeated four times
14				Yellow	28 pints	Do	1003	Present	"	
15				—	—	—	—	—	"	
16	40 years	Male	Hepatic ascites	Pale straw	26 pints	Neutral	1007	Present	"	Single operation.
17	40 years	Male	"	Light straw	16 pints	Do	1003	Loaded	"	
18	25 years	Male	"	Straw	16 pints	Do	1005	Nil	"	Operation repeated three times.
19	40 years	Male	"	Dark straw	16 pints	Slightly acid	1016	Present	"	
20				Dark straw	12 pints	Do	1016	Do.	"	
21				Yellow	22 pints	Neutral	1012	Loaded	"	

* In each case all fluid was removed at one sitting

nice of the treatment of ascites by the direct method of removing all the fluid at one sitting from the peritoneum, and to this I will confine my remarks without reference to the constitutional treatment of the several diseases of which it forms a symptom. Before submitting an epitome of cases I will state the reasons on which I based my decision to adopt this method of treatment. 1. Because ascites no matter from what cause its presence may be excited is a symptom of a grave and urgent nature and is usually developed in the more advanced stages of the disease with which it is complicated. 2. Because its presence causes pain and much unnecessary discomfort to the patients. 3. Because any other modes of treatment, such as the administration of purgatives, diaphoretics, diuretics, absorbents &c., are utterly untrustworthy and greatly add to the exhausted and debilitated condition of the patient. 4. Because the operation of paracentesis abdominis is practically devoid of danger and it can be repeated several times on the same subject with advantage. 5. Because the result of the operation benefits the patient and improves his general condition and thereby tends to augment the chances of curing his actual constitutional disease by subsequent treatment.

The following tabular statement gives the details of cases

the omentum. In such cases a blunt pointed probe ought to be introduced through the cannula and the protruding omentum pushed gently inside, at the same time, by a slight movement the cannula should be directed in a slightly oblique line, so as to obviate a recurrence or the accident.

If ascites is complicated with general anasarca (affecting usually the lower extremities and the scrotal sac) it is my routine method of treatment to extend the principle of direct removal of fluid to these regions by making innumerable surface-pricks all over the lower extremities and scrotum. This simple procedure combined with the elevation of the feet a suspensory bandage to the scrotum and complete rest in bed in the recumbent position, gives most satisfactory results and in a very short time the patient is in a better condition for the performance of the major operation.

I have been induced to offer the above observations by a perusal of Dr W B Cheale's remarks on the treatment of ascites,¹ and as a result of my own experience I am able to endorse his opinions and advocate early paracentesis abdominis in the treatment of ascites.

THE USE OF CATGUT LIGATURES IN OVARIOTOMY

By SURGEON MAJOR D CHAS DAVIDSON, I M S,
CIVIL SURGEON, SATARA, INDIA.

It has generally been held that catgut ligatures are unsuitable in cases of ovariectomy, owing to the danger which may arise from their becoming loosened or absorbed too quickly, but the following case would appear to show that they can be employed with safety. The benefits to be derived from the use of such ligatures in preference to silk, apart from the supposed danger, are sufficiently manifest. The now almost universal procedure of cutting the pedicle short, ligaturing and carefully replacing it in the abdominal cavity, renders the application of the least irritating ligatures compatible with safety desirable, and nothing of this nature that has as yet been introduced into surgical practice has been found to be so little liable to set up inflammation or to so readily undergo absorption as catgut. There is also an advantage in employing it for deep and superficial sutures, especially the former, to the abdominal incision, as it becomes absorbed and there is no occasion to remove the sutures. Indeed the first dressings placed over the wound do not under such circumstances require to be disturbed at all until firm union has taken place, thus saving the patient pain and worry, both liable to set up inflammatory symptoms, and avoiding any danger of interfering with the healing process.

A married Maratha woman, aged about twenty five, suffering from ovarian tumour, was on June 3rd, 1892, placed on the operating table, and the usual precautions were taken and arrangements made. Surgeon Major Hill, A.M.S., of the Satara Station Hospital, kindly assisted me. An incision about three inches long was made in the median line midway between the umbilicus and pubes, the deeper layers of fascia and the peritoneum being divided on a director. On passing the hand into the abdomen slight adhesions were found, but not of an extensive nature. The tumour, which was of considerable size and multilocular, was emptied as far as practicable by means of Spencer Wells' "ovariotomy trocar," but part of the contents, being of a semi solid nature, would not pass through and had to be removed with the tumour. The few adhesions were gently separated and the tumour was turned out of the abdominal cavity. The pedicle, which was fairly long, was twice transfixed with a needle armed with catgut ligatures which were carefully tied, ligaturing the pedicle in halves. A third ligature of the same material was then thrown round the whole thickness and firmly secured, after which the pedicle was divided and the ligatured portion gently replaced within the abdominal cavity, which was carefully sponged out. The edges of the incision were accurately brought together by means of deep and superficial catgut sutures and a dressing of iodoform and boracic wool was applied. In the evening, about seven hours after the operation, her condition was as follows: there was no sickness, the temperature was 100.6° F, the pulse was 120, small and soft, and she was almost free from pain.

June 4th, morning.—Temperature 99°, pulse 102. She is almost free from pain in the wound, but complains of pain in the head. She passes urine freely, but the bowels have not been opened. She takes milk well. In the evening the temperature went up to 100.8°.

5th.—Temperature in the morning, 99° F, in the evening, 101.2° F. She slept well, but complains of a little pain, chiefly in the right thigh, the tongue is clean, but the bowels have not been opened.

6th.—She is going on well. Morning temperature, 99°, evening temperature, 101.4°.

7th.—She has had no sleep and complains of pain. Temperature 100.

8th.—The bowels have been moved and she slept well. Temperature 100. She complains of pain in the wound.

9th.—Temperature normal. She complains of some pain in the right thigh and in the wound. The bowels have been moved.

10th.—Temperature normal. She slept well. The bowels have acted.

11th.—Temperature normal. She complains of pain and has slight diarrhoea.

12th.—There is severe pain in the wound. She had no sleep till midnight. The bowels acted twice. The temperature is normal.

14th.—Evening temperature 102.1, pulse 122. The bowels were moved once. She has nausea and retching.

16th.—Temperature slightly below normal.

17th.—She is free from pain and tenderness. The stools are natural.

From this date she progressed favourably without any bad symptom up to July 2nd, when she was discharged cured, free from any feeling of uneasiness and with the incision firmly united. No sutures were removed from the wound, the catgut having become absorbed, and the dressings were rarely disturbed during the healing process.

ANTISEPTIC MIDWIFERY

By CLEMENT GODSON, M.D. ABERD., M.R.C.P. LOND. &C.,
CONSULTING PHYSICIAN TO THE CITY OF LONDON LYING IN HOSPITAL.

At the annual meeting of the Governors of the City of London Lying in Hospital, held in February, it was reported that no death had occurred amongst the women delivered in the hospital during the past year. The last death took place in May, 1891, so that there has been no mortality amongst the mothers for nearly two years, and not only so, but I am able to state, since I am called in consultation to every case of serious illness, that there has not been one arising from septic causes amongst the 907 women delivered during this period. I do not call attention to this in a boasting, but in a very thankful spirit, for this hospital has not always been able to report so favourably. In 1870, when I first became connected with the institution, the mortality during the year was 4 per cent. In the ten years from Jan 1st, 1873, to Dec. 31st, 1883—the hospital being closed in 1878—the mortality was over 2 per cent. (1 in 46). In the four years from January, 1880, to January, 1884, it was over 3 per cent. (1 in 32). But during the last six years, that is from January, 1887, to January, 1893, the death rate has been 1 in 319, or 0.31 per cent. This is a remarkable reduction, and naturally one looks for the reason. I have no doubt it results chiefly from the very thorough manner in which the matron sees that the antiseptic management of labour is carried out. Every patient has a vaginal douche of a solution of perchloride of mercury (1 in 2000) administered during labour, and another after the delivery of the placenta, and six more of these douches are given subsequently, generally one night and morning. After this, Condy's fluid or carbolic acid lotions are used. But it is not so much by the use of these douches that immunity from septicæmia is ensured as by the scrupulous attention that is paid to the hands and the finger nails of all those coming into contact with the patients. It is seen that the nails are kept short, that the nail brush is never neglected, and that after washing the hands in soap and water they are plunged in the sublimate lotion.

In a lecture which I gave in 1887 at the Midwives' Institute on "Antiseptic Midwifery" I spoke of the risk, according to published statements, of mercurial poisoning from the employment of sublimate lotion, and I said that in the fifteen months that it had been universally employed at the City of London Lying in Hospital not a single instance of it had occurred. I am now able to state that, during six more years of its employment there, no symptom of poisoning by it has been observed, which proves, I think, that all fear of such may be dismissed. Of course it cannot be expected that this absence of mortality amongst the patients can continue for long, for it must be borne in mind that deaths from all causes are included. I, for one, firmly believe in the occurrence of puerperal peritonitis from traumatic causes, injuries during labour, and rupture of a pyosalpinx, for instance, for I have seen such in private practice where the antiseptic management has been most rigidly carried out. But what it is desired to secure, and I believe has been arrived at, is the prevention of puerperal infection being communicated from one patient to another in the lying in hospitals. Surely this is the time to do honour to Semmelweis, who was the first to point out the causes which gave rise to puerperal fever in lying in institutions and the means of preventing its occurrence by the use of disinfectants. Dr Theodore Duka, in a pamphlet published last year, states that in May, 1847, Semmelweis issued orders that, in the clinique under his control in the General Hospital, Vienna, every person, before proceeding to examine any patient,

should thoroughly wash his hands with liquid chlorine or chlorinated lime-water, and in a work he published at a later date, entitled "Die Aetologie &c.," he insisted on "removal of maternity wards from insanitary surroundings—scrupulous attention to general cleanliness and frequent use of antiseptics in every form." Semmelweis died in 1865 at the age of forty-seven, and certainly until recently his name has been forgotten—if ever known—by most of us. It is now, however, proposed to erect an international monument¹ to his memory in his native town of Budapest, in recognition of his discoveries in connexion with the etiology and prevention of puerperal fever, and, for the purpose of obtaining contributions from the United Kingdom, India and the British Colonies, an executive committee has been formed of which Sir Spencer Wells is chairman and Dr. Cullingworth honorary treasurer. The maximum subscription has been fixed at one guinea in order that the project may meet with general support. I venture to hope that this communication may stimulate some of my professional brethren to contribute.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL AND THERAPEUTICAL

EXCISION OF THE PECTUM AND PART OF THE SIGMOID FLEXURE (TWELVE INCHES) FOR MALIGNANT DISEASE.

By F. A. PURCELL, M.Ch., M.D. R.U.I.,
SURGEON TO THE CANCER HOSPITAL, BROMPTON

A WOMAN aged forty-six was admitted into Marsden Ward of the Cancer Hospital on Feb. 23rd, 1893. She is the mother of seven children, the youngest being five years old. She is a thin spare woman of nervous temperament and highly excitable. She menstruates regularly, the bowels are troublesome, being generally relaxed, never constipated. She suffers from pain in the body after straining. For some months she has been passing blood with her motions. About five weeks before she presented herself here she consulted Dr. Robinson of Yaxley. He made an examination and found a growth per rectum, and recommended her to seek further advice at the Cancer Hospital. On examination the sphincter was found to be dilatable, easily admitting two fingers, the folds of the intestine fell down. On insinuating the finger further up to its utmost, and on pressing the perineum, a hard mass was reached, the bowel and mass were freely movable and by gently drawing the parts downwards the finger passed through the diseased tube and was able to be got beyond the growth. The entire circumference was implicated and disease was more pronounced anteriorly and to the left where ulceration had occurred. The lumen of the tube was patent, no obstruction proceeding to occlusion existing. Nothing could be made out on examining per vaginam.

On Feb. 23th she was placed on the table, having been previously prepared by having copious enemata administered and the bladder emptied. She was anaesthetised with ether by Dr. English and placed in the lithotomy position, the legs being supported by Clover's crutch. On examining the rectum a quantity of solid and liquid faeces escaped, and the bowel had to be washed out to cleanse it, I was assisted by my colleagues, Messrs. Jesse, Cotterell and Barber. My colleagues made an examination and concurred in the attempt to remove the disease by total extirpation, although it was situated beyond the usual limit very considerably. The sphincter ani was stretched but left intact, the mucous membrane, one inch inside, was incised all round, as also were the muscular and serous coats thus freeing the bowel about one inch from the margin of the anus. The rectum was now detached from its surrounding—the posterior wall of the vagina was dissected off and stopped by means of the finger nail and scissors, any bleeding vessel was seized with clamp forceps. At about four

and a half to five inches up, the peritoneum anteriorly was opened, which gave exit to a flow of coloured fluid. Some further attachments of the recto-sigmoid mesocolon were divided, as also other bands—a procedure which released the bowel, the part with the growth had to be gradually brought down and was delivered between the fingers. The white longitudinal bands indicating the sigmoid flexure were observed descending over the growth and spreading out upon and being lost over the upper part of the rectum. Two inches above the growth was the spot selected where the bowel seemed well clear of the disease, and there the gut was cut across with scissors, the end was clamped with five pairs of torsion forceps, the parts were well douched and cleansed, and all the vessels ligatured, the upper end was then drawn carefully down without any tension and sutured with interrupted silkworm gut sutures to the mucous membrane at the anus. Some of the free mucous membrane, as being superfluous was cut away, a rubber drainage-tube was lodged behind the bowel, a pad of absorbent wool was secured by a T bandage, and a morphia suppository administered. She passed that night fairly well. The next day her temperature rose, but fell the second day after, when she passed a large motion, and up to the present she is doing well.

The measurements of the piece of bowel were taken when it was removed, the gut was afterwards placed in spirit and water and has shrunk considerably and requires stretching to obtain the same measurement as when it was fresh. The piece removed measured twelve inches and as one inch of mucous membrane was left above and inside the anus the gut was cut thirteen inches from its margin. From the anal extremity of the specimen to the lower limit of the disease was a distance of seven inches, the disease occupies three inches, and two inches of sound bowel shows above. The white longitudinal bands descending from the sigmoid flexure are seen running over the growth and passing down for two inches below the lower border of the disease. The bowel posteriorly, being the middle and lower portion of the rectum, is devoid of peritoneum and is shredded where it had been peeled away from the sacrum, also anteriorly where it had been detached from the posterior wall of the vagina. The line of the reflexion of the peritoneum is seen lower down in front than in its posterior aspect, the three inches occupied by the disease has much thickened the gut all round, being more pronounced in the front and to the left side, where it has broken down the finger having burst through the ulceration during manipulation at the time of operation. On laying open the bowel the lumen of the tube is patent. The mucous coat is infiltrated and ulcerated, the ulceration being more extensive where the disease was most pronounced, the muscular coat is also infiltrated. The disease is cylindrical epithelioma.

Ulceration ending in perforation would have evidently preceded occlusion, as the lumen of the tube is patent. This would have ended either by perforating into the abdominal cavity or adhesive inflammation might have prevented this for a time by agglutinating the diseased and ulcerated portion of the bowel to some neighbouring part possibly to some coil of the small intestine or to the uterus and vagina.

Manchester-square, W.

A CASE OF ACUTE ALCOHOLIC POISONING

By WM. BERRY, F.R.C.S. IREL.

HOV. MEDICAL OFFICER, ROYAL ALBERT EDWARD INFIRMARY, WIGAN

CASES of acute alcoholic poisoning are of sufficient rarity to cause the following case to be worthy of record in THE LANCET.

A man aged thirty-three, at the time of the occurrence following the occupation of a labourer in a railway goods yard, on Feb. 11th, at 2 P.M. partook with his comrades of some whisky drawn out of some casks supposed to have been empty. He is said to have drunk between ten and fifteen ounces of the spirit. At 2.20 P.M. he was seen by a carter to go and sit on a form in the machine office in a state of drunkenness. Within a few minutes he fell to the ground in a deep sleep. This carter left him at 3 P.M., thinking that he was merely drunk and would sleep off the effects of the liquor and then go home. At 6 P.M. the carter found him in the same condition, and on the man's wife arriving to seek her husband the latter was lifted on to a form. Mr. Berry was sent for and saw

¹ A special meeting of the medical profession in aid of the movement to erect an international monument to Semmelweis was held in the Library of the Royal College of Physicians on Oct. 24th 1892, a report of which appeared in THE LANCET of Oct. 29th.—ED. L.

him about 7 P.M. He found him lying on the form with his face somewhat flushed, the pupils contracted almost to pin points, the conjunctivæ insensitve and suffused, respiration slow but regular and somewhat laboured, and the radial pulse slow and scarcely perceptible. As nothing could be done on the spot a hypodermic injection of twenty minims of ether was given, and the man was removed in an ambulance to his own house, which was not very far off. On arriving there he was placed on a couch and was found in the same state of profound coma, it being impossible to rouse him. A faint spirituous odour could be detected in the breath, and so without loss of time the stomach pump was used and the stomach washed out with warm water. The water returned almost clear, only containing a little mucus, and had no odour of spirits. (It may be mentioned here that he had not taken any dinner that day and had eaten nothing since breakfast.) The patient was then undressed and put to bed, and another hypodermic injection of ether was given. The extremities were now extremely cold, the conjunctivæ still insensible, the pupils minutely contracted, respiration was laboured; but not stertorous, the pulse was weak and the heart sounds were very indistinct. Attempts to rouse the patient were of no avail. Hot bottles were applied to the extremities and the sides, and mustard plasters over the præcordial region, the nape of the neck and the calves of the legs. The hands and arms were vigorously rubbed, and the patient was covered with warm blankets. Another hypodermic injection of ether was given before the patient was left. On a second visit at twelve, midnight, reaction was found to have commenced the body and extremities were warm and vesication had taken place at the left hip where one of the hot bottles had been applied. But the pupils were still contracted, the conjunctivæ insensitve, coma was quite as deep, the pulse slightly improved, and the heart sounds were still very indistinct. A hypodermic injection of atropine ($\frac{1}{4}$ gr.) was given and some hot coffee ordered for the patient as soon as he showed signs of being able to swallow. Cloths dipped in vinegar and water were also ordered to be applied over the forehead and temples. He never recovered consciousness and died at 9 A.M.

Necropsy (thirty hours after death), by Mr FOREMAN, L.R.C.P., L.R.C.S. Edin.—The body was well nourished. There were some marks of psoriasis guttata on the left thigh and forearm. There were no marks of violence, but there was slight emphysema over the right first and second ribs at the seat of the hypodermic injection. Rigor mortis was complete. There was hypostatic congestion on the dorsum. On removing the calvaria the skull was found to be somewhat thin, the dura mater was slightly adherent and very much congested, the vessels being filled with dark fluid blood. There was no effusion of serum on the surface of the brain. On removing the brain there was no effusion at the base and the vessels were normal. On cutting into the substance of the brain it appeared healthy. There was no effusion in any of the ventricles. On opening the thorax the lungs were found to be healthy, there were slight adhesions of the left pleura, and there was very little dark fluid in the pleural cavities. The pericardium contained very little fluid. The heart was in a state of diastole, the right ventricle was empty and the valves were healthy. The left ventricle contained a small quantity of dark fluid blood, but the valves were healthy, though the lining membrane and muscular wall were of a dark chocolate colour. The stomach distended with gas, contained a little greenish mucus. The mucous membrane had very dark patches scattered over it, but there was no corrugation. No smell of alcohol could be detected. The liver was congested. The gall bladder was half filled with bile. The spleen was normal. The intestines were healthy. The kidneys were slightly congested, the capsula was not adherent. The bladder was healthy and contained about six ounces of urine.

Remarks by Mr BERRY—This case is interesting from the suddenness of the onset, the perfect insensibility, the persistent minute contraction of both pupils (as it is usually stated that in cases of alcoholic poisoning the pupils are dilated), the slowness of the pulse and the snoring respiration in contradistinction to the stertorous breathing of coma from compression, the absence of the clammy skin seen in opium poisoning, and the reaction which took place without any restoration to consciousness, together with the failure of treatment to avert a fatal issue. I have to thank Mr Das for the notes of the case.

A Minor

OF

HOSPITAL PRACTICE, BRITISH AND FOREIGN

Nulla autem est alia pro certo noscendi via nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium

ST SAVIOUR'S UNION INFIRMARY, EAST DULWICH GROVE

ULCERATIVE ENDOCARDITIS OF MALARIAL TYPE IN A
MAN WHO HAD FORMERLY HAD AGUE.

(Under the care of Dr C GROSS, late Medical Superintendent,
reported by THEODORE FISHER, M.D. Lond.)

THE malarial type of ulcerative endocarditis does not appear to be a common variety of the disease. Amongst the fifty three cases recorded by Dr F Taylor in the Guy's Hospital Reports for 1891 there is no example, and Dr Osler at the time of his Gulstonian Lectures had not seen a case. The latter, however, refers to cases recorded by other observers—e.g., Drs Wilks, Bristowe, Coupland, Lancereux, Leyden and Ormerod—and mentions that some have noted the previous occurrence of ague. Dr Lancereux briefly refers to a case in a young man aged twenty five, who had contracted intermittent fever during residence in Africa, and was treated in 1860 in the Hôpital de la Pitié for a cardiac affection accompanied by a paroxysmal fever, against which sulphate of quinine remained powerless. The patient died, and his heart showed lesions of ulcerative endocarditis.¹ The same writer quotes another case in a man aged twenty five, who seven years before had suffered from fever in Africa. About 1 P.M. in the day he had rigors followed by heat and abundant sweating. The paroxysms although not occurring with great regularity, continued for the last three weeks of life.² Dr Ormerod, in the Gulstonian Lectures for 1851, quoted a case that was under the care of Dr Bond of Cambridge, in which, although no history is mentioned, the district from which the report comes is worthy of note. A gentleman aged sixty one, suffering from heart disease, which was found afterwards to be of the ulcerative form, "had two paroxysms (rigors) recurring pretty regularly every day—viz., at 4 A.M. and 4 P.M."³ Another interesting case is recorded by Dr Bristowe. About four months previously to admission the patient thought she caught ague whilst staying at a village in Hampshire. She was attacked by rigors with a cold, hot and sweating stage soon after her return to London. When first seen by Dr Bristowe, seventeen days before death, rigors occurred with remarkable regularity at intervals of about twelve hours the temperature intermitting between 95° to 97° and 104° to 105°. After the first four days the temperature was sometimes irregular, sometimes of the malarial type. It is possible that in this case rigors ushering in the fatal disease were mistaken for ague.⁴ Quite recently, Dr Osler has recorded two cases of chronic intermittent fever associated with malignant endocarditis,⁵ one of which was under his own care. In this case, occurring in a man aged forty-three, there was "an undefined history" twenty years before of what the patient called "chronic malaria." The malarial type of ulcerative endocarditis doubtless does occur without a previous history of ague, as is shown by the interesting temperature chart of one of Dr Coupland's cases,⁶ yet it is not unreasonable to suppose that when this disease has followed malaria the previous attacks of fever have had some effect upon the character of the temperature. The attacks may be supposed to have left their stamp upon the heat centres, so that when those centres were upset there was a tendency to act upon certain lines. The altered blood of the majority of febrile diseases finds it difficult to overcome the daily habit of the nervous system, but those habits having been outgrown and new paths at least for a time, laid down when fresh but somewhat similar disturbance occurs, it is not difficult for the nervous organisation to act upon those same paths and to run to similar extremes. The following case is interesting from that point of view. Periods

¹ Archives Générales 1873

² Gazette Médicale 1882

³ London Medical Gazette, 1851

⁴ Brit. Med. Jour., 1880

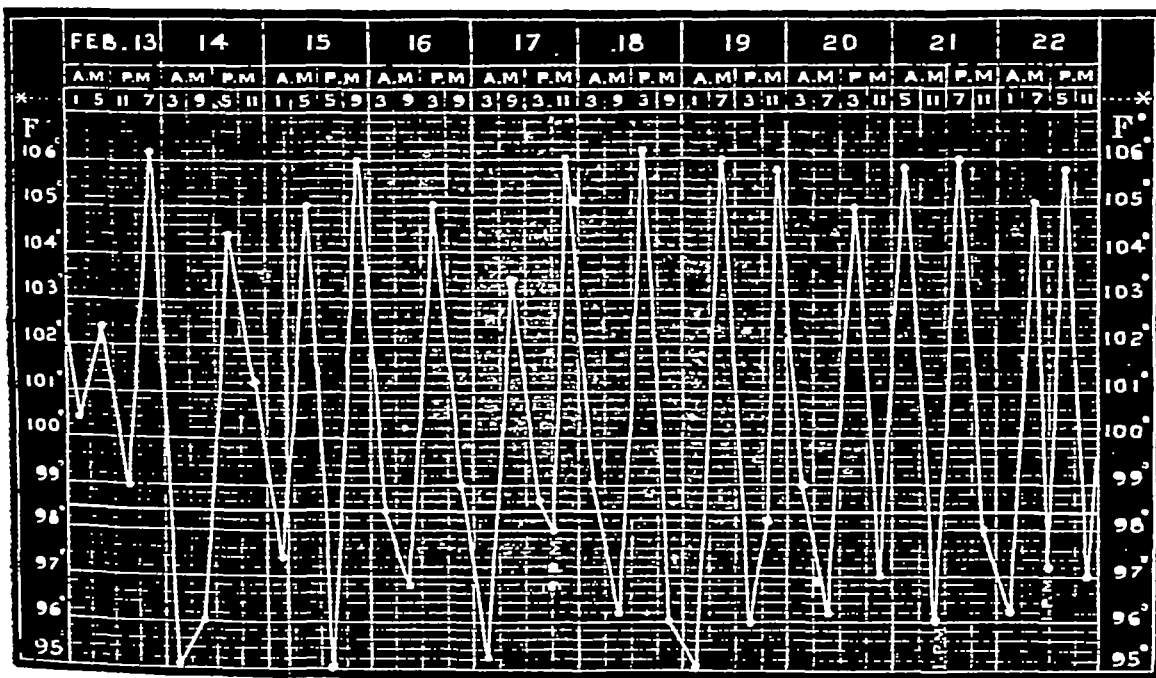
⁵ Practitioner, March, 1893

⁶ Medical Times and Gazette 1882.

of temperature of malarial type were more or less complicated with those of a pyæmic character, but that is only what one might be led to expect. Fresh bursts of septic infection from time to time dominate the daily *role* but as the heat mechanism recovers from the shocks it elects to act in some accustomed manner.

A well built muscular, but rather anæmic man aged thirty-three was admitted to the infirmary on Jan. 8th, 1891. The history taken by Dr Kent states "In the army five years and eight months, invalided for heart disease. Was in the Zulu campaign and in Ceylon, had fever and ague (quotidian and tertian) also slight dysentery." There was no history of rheumatism. Recently the patient's mother was written to and asked if he suffered from recurrence of the malaria since his return to England. She answered that she saw little of him, but that "he had shivering attacks at times after he came home." The description of the condition of the heart is as follows: "Apex fifth space nipple line, impulse heaving regular, no thrill, to-and-fro bruit at right base, systolic rough and conducted to right clavicle, diastolic less harsh and heard down the sternum and in the left vertebral groove. At the apex is a soft low pitched bruit

hands were sometimes cold at the onset, but a cold stage was not well marked. The rigors however were severe and sometimes lasted all the time that the temperature was rising. He several times vomited as the rigor was passing off. Marked sweating as the temperature fell was only occasional, but the skin was generally clammy. Quinine, antipyrin and antifebrin were all powerless to restrain the rise. From Feb 7th to 13th the temperature again became irregular, but on the 14th reverted to the malarial type, this time, however, there was a rise on one day followed by two on the next, thus answering to the type that has been called 'semi tertian.' This lasted, as is seen from the chart, for eight days, then double rises occurred on two consecutive days. For the last three days of life some of the evening temperatures were not recorded, but the character of extreme intermission remained the same. The rigors became more and more severe, the patient calling out and groaning as they commenced. Death took place during one of them and whilst the temperature was rising. At the necropsy the heart was found to weigh twenty six ounces, large masses of friable granular vegetations were found on all the aortic valves, which were thickened and contracted. Perfora-



Abridged two hour chart, the highest and lowest temperatures being selected. It may be described as semi-tertian, a single rise on one day being followed by two on the next. The single rise is the most constant in time being highest once at 5 P.M. and then on three alternate days at 3 P.M. The second of the double rises at first postpone two hours on three alternate nights then reaches its maximum at the same hour for some other night. The first of the double rises is generally highest at 5 A.M. or 7 A.M. For the last three days of life, unfortunately some of the evening temperatures were not recorded.

* The hours at which the various temperatures were recorded.

conducted into the axilla. Pulse collapsing regular. The abdomen was full, but there was no dulness in the flanks and no œdema of the legs, the liver was three inches below the ribs but repeated examination failed to detect the spleen. To anticipate matters it may be mentioned that surprise was great on finding at the necropsy a large somewhat flattened-out soft spleen weighing twenty-one ounces. Dr Tooth has recently recorded a case in THE LANCET in which a large spleen in ulcerative endocarditis was overlooked. To return to the clinical history for the first fortnight the morning and evening temperature chart showed on two or three days intermissions between 97.6 to 98.4 and 102.4 to 103.6, on other days the temperature in the morning did not descend below normal. Taken every two hours the temperature for the third week, although remitting about five degrees daily was more pyæmic than malarial. On Jan. 31st, however it adopted a regular rise and fall from subnormal to 104 or 104.6, the rise being associated with a rigor. The onset occurred from three to five o'clock in the afternoon and reached its maximum regularly for eight days with one exception, at 11 P.M., and by 11 A.M. the following morning the temperature was generally subnormal. The

tion of the coats of the aorta had taken place above the right posterior valve, union of the sheath of the vessel with the wall of the right auricle having prevented rupture and extravasation of blood. The aperture admitted the tip of the little finger. Behind the same valve a sinus led into a small abscess cavity in the inter ventricular septum. From half to three-quarters of an inch below the valve this abscess cavity communicated with the left ventricle by an aperture sufficiently large to admit a grooved director. It was surrounded by a large mass of vegetations. A few of the chordæ tendinæ of the mitral valves were ruptured. The spleen was large (weighed twenty one ounces), soft, and almost diffident. The kidneys as is not uncommon in this disease were large, pale and fatty. They weighed twenty-three ounces.

Remarks by Dr T. FISHER.—Dr Lancereaux has recorded eight cases of ulcerative endocarditis with a history of malaria or with suspicion of that disease, and appears to think that there is some connexion between the two. Another French writer, Dr Duroziez, considers that malaria is capable of pro-

ducing simple endocarditis and has collected twenty cases of ordinary cardiac disease in patients who have had ague, but with no history of rheumatism. It is difficult to believe that in the above case malaria eleven or twelve years previously can have had anything to do with the fatal character of the heart lesions, but since there was no history of rheumatism I suppose Dr Duroziez would claim the case in support of his view. That the patient was invalid for cardiac disease soon after having suffered from malaria is certainly singular. One cannot, however, lay stress upon a negative history of rheumatism.

Medical Societies.

MEDICAL SOCIETY OF LONDON

Aphasia due to a Fall on the Head—Croupous Pneumonia in Children.

An ordinary meeting of this Society was held on March 27th, Dr De Havilland Hall, Vice president, in the chair. Dr C E BEEVOR gave the details of a case of Aphasia due to a Fall on the Head. The patient was a carpenter aged fifty, who fell from a scaffold fourteen feet on to the left side of his head. He was unconscious for fifteen minutes, but soon afterwards he walked home, where he complained of pain in the head and kept repeating the sentence, "Had a fall." The next day he was drowsy and could not answer questions. There was no definite paralysis. Four days later he came under observation, when the following symptoms were noticed as regarded his speech. He could speak voluntarily, but imperfectly, and talked a good deal of nonsense, he could understand spoken commands and write spontaneously, but could not understand written commands, or repeat spoken words, or pick out objects named to him, or write from dictation, or copy printed characters in writing, and could not name objects shown to him, though he could recognise their use. The patient recovered in about three weeks. The nature of the lesion was probably meningeal hæmorrhage or simple concussion and was situated probably over the visual word centre in the supra marginal and angular gyri.—Dr DE HAVILLAND HALL asked whether the sense of smell had been tested. If anosmia were present and were unilateral it would probably not be discovered by the patient.—Mr SPENCER WATSON asked whether there were any abnormal subjective sensations of smell and remarked that optic neuritis sometimes supervened in these cases. He inquired to what Dr Beevor attributed the recovery.—Dr WALTER CARR commented on Dr Beevor's remarks on the inability of the right hemisphere to discharge the functions of the left in cases of aphasia, and asked if an exception might not happen in the case of very young children.—Dr BEEVOR, in reply, said that owing to the difficulty the patient had in expressing himself it was impossible to be sure about absence of smell, he never complained of any perversion of that sense. There was no change in the optic discs. The recovery, he believed, followed on absorption of effused blood. He did not think that even in children the right hemisphere was capable of assuming the functions of the damaged left side.

Dr FRANCIS HAWKINS read a paper on Croupous Pneumonia in Children. The communication was based on the investigation of 220 cases, and the conclusions at which he arrived were fully illustrated by diagrams. He showed that most cases occurred during March, May and July, the fewest in January, August and December. They occurred as a rule independently of antecedent disease, and in the great majority the onset could not be attributed to any definite cause. Fifty of the cases occurred under the age of five years, 120 between five and ten, and fifty between ten and fourteen. The disease was most frequent at the ages of five and nine respectively. Connecting his table with a further series of over 700 cases occurring mostly in adults, compiled by Drs Hadden, Mackenzie and Ord, he found that the frequency of the affection gradually rose from the fifth to the twentieth year. Its onset was usually sudden and the most prominent symptoms of invasion were vomiting, cough and pain, whilst rigors and convulsions were very infrequent and hæmoptysis was extremely rare. An arrangement of symptoms into groups showed that the nervous system was the one most frequently affected. The average daily temperature before crisis was 103° to 104° F, and in about one seventh of the cases the fever assumed the hectic type, though

in only three was this found to be associated with the presence of pus. The sixth was the commonest day of crisis, it being very frequent also on the seventh and eighth days, in basic pneumonia it was rather later than in apical. He regarded the coarser signs of the disease, such as dulness, tubular breathing &c, as of value more for estimating the gravity of the case than for the mere recognition of the disease, a dull tympanic note was often present before any marked variations in the breath sounds were discernible. Out of 146 cases the base of the lung was attacked in 69, the apex in 45, and in the remainder the primary seat of the disease was at other points. The most rapid respiration noticed was 68, typical rusty expectoration was present in seven cases, the youngest being aged six. Pleurisy coexisted in sixteen cases, pus being removed from the chest in three. Pulmonary gangrene occurred once. An endocardial bruit originated during the course of the disease in six cases and pericarditis in one. Albuminuria supervened in seven cases and herpes in thirty six, the latter affection being in one case on the arms. Delirium was rather more frequently associated with apical than with basic pneumonia. As to treatment he thought that ice if used in a left-sided pneumonia might so slow the heart as to give rise to dangerous symptoms. With regard to alcohol, discretion was required in selecting those cases in which its exhibition was needed and those from which it should be withheld.—Dr DE HAVILLAND HALL asked Dr Hawkins whether he had any figures showing the relative frequency of croupous and catarrhal pneumonia, in many of the croupous cases there was cerebral complication.—Dr ALEXANDER MORISON thought that in some cases he had seen pneumonia develop as a metastasis. To control the heart, it was of equal efficacy to apply the ice to the forehead as to the chest. He considered that the administration of alcohol required great care, as it blunted the reflex sensibility of the nerve centres. The action of digitalis in this malady was less unfavourable in children than it was in adults.—Dr PASTEUR spoke of the difficulty in discriminating some of the less marked cases from lobular pneumonia.—Dr BRADWOOD asked if there were any distinctive clinical symptoms which would aid the separation of the catarrhal cases. The onset, he thought, was usually gradual. Cough was not a valuable symptom, as children repressed it, and the temperature was not of much help. Assiduous poulticing was better than ice as a measure of treatment, and alcohol was of value chiefly as a sedative.—Dr W CARR remarked on the variations in type seen in children and on the very rapid fall of temperature which often accompanied the crisis. As the prognosis was so good, only expectant treatment was needed.—Dr HAWKINS briefly replied.

CLINICAL SOCIETY OF LONDON

Pseudo bulbar Paralysis—Epithelioma of Lip—Modified Progoroff's Operation—Patent Meckel's Diverticulum—Fracture of Skull—Exceptional cases of Peripheral Neuritis—Treatment of Shock by Transfusion.

A CLINICAL meeting of this Society was held on March 24th, the President, Sir Dyce Duckworth, in the chair.

Dr NEWTON PITT showed a case of Pseudo bulbar Paralysis in a man, it was probably of cerebral origin.

Mr BARKER showed an exceptional case of Epithelioma of the Lip. The disease, starting at the angle, had spread along both the upper and lower lips and there were no signs of similar growth commencing at the opposite angle. The man had been the subject of syphilis and was very much addicted to chewing tobacco. There were some patches of leucoplakia on the tongue. Its malignant nature was proved microscopically.

Mr BARKER likewise brought a man on whose foot he had operated according to Le Fort's Modification of Progoroff's Method. The advantage was the early date at which the patient was able to bear his weight upon the stump, it being only seven weeks since the operation.

Mr BATTLE exhibited a female infant with a Polypoid Extrusion at the Umbilicus. At its apex was a minute orifice from which escaped a small quantity of faecal matter. The protruded portion proved to be the mucous membrane of Meckel's diverticulum. The bowels acted normally, showing that the gut below the diverticulum was properly developed. The existence of this condition in the female had been

doubted. He had seen a case somewhat similar in a child a few days old in which there were two openings

Mr WALLIS showed a boy who had made a good recovery from an extremely severe Compound Comminuted Fracture of the Skull.

Dr HALE WHITE read a paper on Two Exceptional Cases of Peripheral Neuritis—the one septicæmic, the other due to lead. The first case was that of a man aged thirty three, who came into the hospital suffering from mitral regurgitation, great œdema of the lower extremities and an unhealthy ulcer on the left leg. The skin all round it was red and inflamed. Two days afterwards the ulcer had doubled its size, it was very foul, and the patient had a high temperature. He complained that he could not bend his hands, and it was found that he had a wrist-drop on both sides. During the next few days the weakness of the extensors increased so much that three days afterwards power of flexion and extension of the hand, wrist and elbow on both sides was lost, supination was very weak and pronation was completely paralyzed. The movements of the shoulders were weak. The supinator longus on both sides was paralyzed. There was no loss of sensation, but the muscles and the musculo-spinal nerves were extremely tender. Two days after this date, as the ulceration was rapidly spreading the leg was amputated at the knee, the symptoms of neuritis were worse. The second case was one of saturnine neuritis. A man aged forty five, who had lead colic twice, and who worked in white lead works, was suddenly taken ill with very acute pains in his limbs and body, especially in the lumbar region. On admission he was found to be suffering from intense abdominal pain as also severe pain and degeneration in some of the muscles. The periphery of each field of vision was considerably constricted. On the right side the arch of the soft palate was much lower than on the left. The right posterior pillar of the fauces projected inwards more than the left. Both pillars approached the uvula when the patient said 'Ah,' but the right did not return so far outwards as the left. The uvula was not deflected. Taste was impaired. Food did not return through the nose. It appeared as though the elevator palati was paralyzed. This became well first, but the posterior pillar for some time remained nearer the middle line than its fellow, probably from weakness of the opponents to the palato-pharyngeus. The left wrist was slightly swollen. The muscles of the limbs and the accessible nerves were all extremely tender to pressure. He had marked double-wrist drop. The flexors were weak. Inspiration was normal. The lower extremities were in all movements almost completely paralyzed. The pupils were equal. There was early optic neuritis. The bowels were confined and there was vomiting. The knee-jerks and plantar reflexes were lively. He remained under observation six weeks and was discharged well. During his stay in the hospital the following additional symptoms were observed, painful swelling of various joints with subsequent grating in some of them, numbness coldness paræsthesia and loss of temperature sense in various parts of the body, the muscle sense in the hands was also impaired. The PRESIDENT remarked that though some of the cases of neuritis from toxic causes were associated with arthritis the joint affection in some of them might be due to gout. He regarded the swellings on the backs of the hands as trophic nature.—Dr HADDER pointed out the absence of evidence that the joint affections were due to trophic changes. In cases of osteo-arthritis and of chronic rheumatic arthritis it had not been proved that they were dependent upon diseases of the peripheral nerves, though he would not go so far as to say that peripheral neuritis never caused joint disease. There were many other poisons besides lead which would cause hyperæsthesia. In both alcoholic neuritis and diphtheritic paralysis there had been often noticed an exaggeration of reflexes previously to their abolition.—Dr HALE WHITE, in reply said that he had only met with this one instance of septicæmic neuritis, but a collection of such cases had recently been published. He insisted on the clinical fact that these different poisons produced different types of neuritis. The diphtheritic cases were quite different from those due to alcohol, the hyperæsthesia in the former being sometimes very severe. He quoted an instance in a syphilitic patient which ended in complete recovery.

Mr MAYO ROSSON read a paper on the Treatment of Shock by Transfusion or Infusion. He described two cases in detail and mentioned others in which he had found that the infusion of several pints of normal saline solution into the circulation ward off impending death in cases of intense shock after operation. The cases specially described were one

of enucleation of a large fibro-myoma of the uterus and another of amputation at the hip-joint in a young adult, for sarcoma of the upper part of the thigh. In neither case had there been any material loss of blood, but death was apparently imminent from shock. Both patients were saved by the means adopted. After quoting from several authorities to show the similarity in the symptoms of syncope and collapse, Mr ROBSON pointed out that it had been clearly shown that shock was naturally due to paralysis of the heart and vaso-motor paralysis of the abdominal vessels, the sudden dilatation of which might simulate sudden hæmorrhage. He remarked that in cases of shock without serious hæmorrhage the blood was driven into the large abdominal veins, where for the time being it was useless, leaving the head and extremities in a state of anæmia. Now, if by injecting several pints of blood fluid into the vessels one could force the blood into circulation again, the effect should be at once manifest by a filling of the vessels in the head and extremities, and although the blood would be diluted the increased quantity (three to four pints) would be sufficient to fill the dilated and partially paralyzed abdominal vessels as well as the vessels supplying the parts essential to life, the heart, moreover would be likely to be stimulated by the blood being driven into it. The case he related seemed to bear out these suggestions. The subject was one which should be capable of experimental proof, and if his suggestions were to be considered to be worthy of further prosecution he had no doubt that proof could be furnished in that way. His own conviction from personal experience was so distinct that it had become his practice, whenever he went to perform a capital operation, to include amongst his instruments a transfusion apparatus and a packet of salt sufficient to make four pints of normal saline solution.—Dr LEONARD REMFEE referred to a case of ovariectomy which was performed at the Great Northern Hospital, in which three hours after the operation the patient began to become faint, and when he saw her she seemed to be on the point of death. Forty five minutes after the injection of a pint and a half of saline solution she had greatly improved, and she ultimately recovered, although for twenty four hours her pulse remained at 180 per minute. In another similar case in which the collapse came on at about the same time, but was more rapid, the patient died before transfusion could be performed. The necropsy proved that the collapse was due to shock, for the ligatures were secure and there was no hæmorrhage.—Mr PARKER said that the cases in which one would expect the least benefit from this treatment were those in which no blood had been lost during the operation. In one instance in an infant he had adopted the continental method of injecting a considerable quantity of saline solution subcutaneously, but the patient was in so collapsed a condition that the fluid was not absorbed. The Obstetrical Society had approved of the practice of injecting saline solution into the peritoneal cavity.—Mr BENHAM remarked that in cholera, in which these injections had been practised on the recommendation of Sir George Johnson, the results had been disappointing, the amelioration being immediate, but only temporary. Where the shock was not dependent on loss of blood, he suggested that resection would give the same relief with less trouble.—Mr F. BURGHARD had carried out this practice in a number of cases, but in only two was there no loss of blood. In one of these, after excision for hip-joint disease, two pints having been injected without perceptible effect, it was continued to four pints when the patient appeared much relieved, but three quarters of an hour later the pulse flickered and the patient died. In a second case, also there was some passing benefit, followed by a fatal result. These instances seemed to show that the proceeding was only of temporary benefit in cases of pure shock. If as was probable, the condition was due to accumulation of blood in the visceral veins it followed that the injection would only add to this accumulation. In one case, in which the operation was for fixing a movable spleen, the injection of a pint and a half of solution produced such intense dyspnoea that they were compelled to desist. In some thirty cases of shock from hæmorrhage he had seen the method practised with the greatest benefit.—Mr LEONARD BIRWELL said that in one case he had injected five pints into the femoral vein by means of a Higginson's syringe with good results though the patient died some days later from peritonitis.—Mr BATTLE referred to a case of intense shock in a man with rupture of the intestines, and four pints were injected after a long operation, with the result that the

patient rallied, though he died a few days later owing to the giving way of a stitch. In another case of ruptured spleen, the patient being very prostrate and the abdomen filled with blood, the injection of five pints of fluid so improved the condition of the patient that he was able to operate. After the operation further collapse was met by the injection of another four pints, and the next day the patient declared that he felt as if there was nothing the matter with him.—Dr SOLOMON SMITH inquired at what pressure the injection was made. The collapse followed from the non passage of blood from the engorged right heart and not from failure of the systemic circulation.—Mr MAIO ROBSON, in reply, said that the right heart was not engorged in these cases, the blood being probably lodged in the relaxed vessels of the intestines, which were paralysed by the shock. He used a simple Higginson's syringe with a glass cannula. It was necessary to watch the patient for some time and repeat the injection if there were signs of fresh collapse, which had happened in several cases. Arguments based upon the conditions in cholera did not apply to these cases, and he failed to see how venesection could be of use. In several cases of operation for ruptured ectopic gestation he had infused into the peritoneal cavity, and a mere irrigation with normal saline solution resulted in a manifest improvement, but these cases were different, inasmuch as the collapse was due to loss of blood.

OTHER METROPOLITAN MEDICAL SOCIETIES

EPIDEMIOLOGICAL SOCIETY—At the meeting on March 15th (Dr J F Payne, President, in the chair) African Hæmoglobinuric Fever was the subject of a paper by Dr PATRICK MANSON, in which he deprecated the practice of explicitly or implicitly ascribing to malarial influences every febrile condition and internal lesion occurring in persons who had suffered from paludal fevers or who had resided for any length of time in the tropics. Some few, as yellow fever, dengue and beri beri, had been recently separated, but the differentiation of tropical fevers, probably more numerous than those of temperate climates, must be carried much further. Whatever the specific cause of malaric bacillus, plasmodium &c., the phenomena of periodicity, splenic enlargement and pigmentation were certainly not characteristic of hæmoglobinuric fever. The disease, though the most frequent and fatal of African fevers, and well described by several French and English observers, was ignored by systematic writers. The general course was that of sudden invasion, with rigors, vomiting and diarrhoea, dark, almost black, scanty urine and "jaundiced" skin. The temperature rose to from 104° to 108°. Next day the symptoms abated, the urine cleared, and on the third day the patient, but for the colour of the skin, might be convalescent. The essential phenomenon was the destruction of the blood cells, in the vessels the red corpuscles were seen to be of all sizes and forms, broken, discoloured and partly dissolved. The colour of the urine, to which the disease owed its popular name of "black water fever," was caused by the presence of broken down blood cells, epithelium casts and a quantity of granular debris and reddish brown pigment which slowly subsided or was carried down on boiling by the coagulum of albumen, leaving the supernatant fluid clear. The "jaundice" was not due to bile but to staining with altered blood pigment. Death supervened either (1) directly from exhaustion, or (2) from anaemia, or (3) from suppression of urine, followed by uræmic coma or convulsions. Previous attacks of malaria predisposed to it, but it was distinguished by the absence of any constant relation between the pyrexia and the danger, by the abrupt termination and by the uselessness of quinine, and it was possible that alleged previous malarial attacks were often cases of this disease of a milder type. It was apparently never heard of before 1850 and, though it seemed to be extending its area, was practically confined to tropical Africa (especially the west coast) and America. In the Congo, Senegal, Gaboon &c. nearly every European was attacked sooner or later, but mostly after the first year, the mortality varied from ten to fifty, averaging 15 per cent. It was frequent in Cuba, Martinique, Venezuela and other regions of tropical America, but there was no accurate or authentic record of a single case in or amongst persons returning from any part of Asia, nor even amongst the French in Cochinchina and Tonkin. He connected its extension to America rather than to Asia with greater commercial intercourse in that direction, and he

believed that the development of East African trade or the opening of the Panama Canal might lead to a wider distribution of this and other tropical diseases.—Dr BATTERSBY, speaking from a considerable experience of North and West Africa, agreed as to the non malarial nature of hæmoglobinuric fever, but maintained that all African fevers differed from the corresponding types of Asia in absence of periodicity &c. He had had seven consecutive monthly attacks of common malarial fever during his first residence in Africa, and subsequently four of hæmoglobinuric fever either there or on his return to England, with mean intervals of three months. One of the attacks being apparently excited by a chill. He doubted whether it differed essentially from other African fevers except in the hæmoglobinuria, which could not be deemed a specific feature.—Dr K McLEOD and Mr LAWSON having referred to the fevers of India, Dr COPMAN stated that though he had never been in the tropics, he had worked with Dr Bristowe at hæmoglobinuria, which he considered to be, whether here or in Africa, the direct effect of chills on persons in whom an excessive susceptibility was natural or acquired. None of their patients, adults or children, had ever been out of England, but their symptoms were essentially the same as those described by Dr Manson—namely, sudden fever ushered in with rigors, the temperature rising perhaps to 107°, vomiting, lumbar pain and faintness, and the urine within half an hour red, brown or black—though there was in none of them any renal disease. The attacks, which lasted about six hours, could always be induced experimentally by exposure with their free consent to cold air or water. No treatment beyond warm blankets &c. was found necessary. The children of Great Ormond street were all subjects of congenital syphilis and in them the attacks occurred whenever the day was cold and wet. None of the adults at St Thomas's Hospital had had syphilis, and but one, an omnibus driver, had ague, and was liable when at work to almost daily attacks, his spleen only being enlarged. The very best methods of microscopic examination failed to reveal any micro organisms. He might add that paroxysmal hæmoglobinuria was not unfrequent amongst horses, especially in Scotland, where it was sometimes fatal. It appeared from the paper and discussion that quinine was the only drug that had been tried, though Dr Manson himself had no confidence in it. He would suggest arsenic, which had proved of undoubted service in pernicious anaemia, and experiment showed it to restrain hæmolysis and to increase the hæmoglobin.—After some remarks by the PRESIDENT, Dr MANSON replied.

HARVEIAN SOCIETY OF LONDON—A meeting of this Society was held on Thursday, March 2nd, Mr Malcolm Morris, President, in the chair.—Mr ROUGHTON showed the Excised Bones of an Elbow joint, in which osseous ankylosis had taken place without the previous occurrence of suppuration.—Mr J JACKSON CLARKE showed the Brain and Spinal Cord of a boy who died of chronic hydrocephalus.—Dr WM HUNTER read a paper on the Diagnosis and Treatment of Pernicious Anaemia. The object of his communication was to direct attention to the points he considered of salient importance in making the diagnosis of this form of anaemia. He was accustomed to rest his diagnosis almost mainly on a consideration of certain changes found in the blood and in the urine and on certain associated changes in the liver and disturbances of liver function. Unlike other forms of anaemia, most of which were the result of impaired formation of blood, pernicious anaemia was due to an excessive destruction of the red elements and the plasma of the blood intermittent in character, occurring within the portal circulation and occasioned by substances foreign to the healthy body introduced into the blood by absorption from the gastro intestinal tract. The chief clinical features associated with this destruction were—1. As regarded the blood, a percentage of hæmoglobin either absolutely or relatively higher than that of the red corpuscles so that, e.g., with a percentage of corpuscles of thirty or forty, one found the same or an even higher percentage of hæmoglobin. The explanation of this difference was that in pernicious anaemia there was no deficiency of iron in the body as was the case in these other forms, on the contrary, there was a large storage of it in certain organs, notably in the liver, and not infrequently also in the spleen, the bone-marrow and the renal cells. By this feature alone pernicious anaemia could be distinguished after death from those forms of anaemia which it most closely resembled during life. Another character of the blood he had found in a case he had recently examined, which he thought might ultimately prove to be of diagnostic importance, was a greatly re-

duced alkalinity of the blood. It was reduced by nearly one half whereas in a case of severe anaemia under Sir Hugh Beavor closely resembling pernicious anaemia, the alkalinity of the blood was normal. 2. As regarded the urine, the difference between the two kinds of anaemia was manifested by the darker colour of the urine of pernicious anaemia. The dark, saffron yellow colour of the former due to the presence of pigment derivatives of hæmoglobin, including "normal urobilin" and occasionally also "pathological urobilin," contrasted very greatly with the pale watery secretion of simple anaemia. 3. As regarded the liver, he was accustomed to attach considerable importance to the periodic occurrence of a slight degree of jaundice. Regarding the disease, as he did, as an infective one localised to the gastro-intestinal area, he thought the first indication was to treat that tract, and he recommended to this end the use of antiseptics, the best for this purpose, in his opinion, being beta naphthol and salol. The tendency to temporary recovery, so marked a feature of this form to anaemia, justified the hope that ultimately the disease would be found more permanently amenable to treatment.—Dr BRISTOWE related a fatal case of pernicious anaemia in which the urine remained to the end of a red brown colour. The patient was not jaundiced in the slightest degree and the urine contained no biliary colouring matter. He believed with Dr Hunter that under the term "pernicious anaemia" were probably comprised several diseases characterised by anaemia, but due to different causes and which, though often resembling one another in many important features were yet fundamentally distinct.—Dr PYE SMITH remarked that the title of this remarkable disease bestowed by Biermer in 1858 was inappropriate, for it was not *progressive* but intermittent in course and though undoubtedly grave it was not *pernicious* or malignant since temporary recovery was not infrequent and permanent cure had been several times recorded. It was a rare disease. It differed from chlorosis and from all secondary anaemia in the great diminution of blood discs, the hæmorrhages in the retina and elsewhere, the pyrexia and the fatty degeneration which ensued and in these respects it formed a natural group with Hodgkin's disease and leukaemia. Like them, it was not benefited by iron, but was almost always relieved by arsenic, as Dr Bramwell at first ascertained. Dr Hunter's important and interesting researches had not only extended those of Quicke on the accumulation of iron in the viscera, but had added much to our knowledge in other respects, particularly as to the reaction of the blood, a point of great interest, since this disease was probably of chemical rather than histological origin.—Dr HALE WHITE remarked that, on the whole, the evidence he had accumulated bore out Dr Hunter's contention, for out of twenty-nine cases of pernicious anaemia he found 41 per cent. gave a history of vomiting and 34.5 per cent. one of diarrhoea before admission. After admission 55 per cent. suffered from vomiting and 41 per cent. from diarrhoea, but at the post-mortem examination it was nearly always found that the gastric intestinal tract was healthy, when any changes were discovered they were slight and unimportant. The vomiting and diarrhoea were certainly not due to the arsenic, they were rather to be regarded as important symptoms of pernicious anaemia.—Sir HUGH BEAVOR remarked that all previous speakers had referred to the existence of other cases of essential anaemia, in which the prognosis was bad but yet which could not be included in the class described by Dr Hunter. He had no doubt the class of case Dr Hunter had done so much to elucidate was the commoner by far. He then related two cases.—Dr HUNTER replied.

HUNTERIAN SOCIETY—At the meeting of the Society on the 22nd ult., Mr F Gordon Brown, President, being in the chair Dr G NEWTON PITT read a paper upon the use of Venesection in the Treatment of Symptoms arising from Thoracic Aneurysm. He detailed the symptoms, paroxysmal cough, pain, dyspnoea, dysphagia and coma, and explained their causes. He read the notes of nine cases of thoracic aneurysm, with or without aortic incompetence, in which venesection, more or less frequently repeated, had been followed by relief to symptoms. In one case the patient was profoundly comatose, and on three occasions was restored to consciousness immediately by venesection. Dr Pitt thought venesection an efficient remedy for acute symptoms and would advise its use only with this object and not with a view to promote consolidation of the aneurysm by clot. He would treat thoracic aneurysmal cases by rest, recumbent

position, by iodide of potassium in gradually increasing doses, and with as limited an amount of fluid as is comfortable to the patient.—Dr F J SMITH thought frequent venesection dangerous to the patient and that no effect was produced until a dangerous stage was reached.—Dr PITT replied.—Dr HUMPHREYS read the notes of two cases of Recovery after Cheyne Stokes respiration. Both cases were females who had been suffering from broncho pneumonia following epidemic influenza. In one of the cases there was a history of mental shock followed by acute delirium and Cheyne-Stokes respiration lasting seven weeks. He thought stimulants of no use in these cases and advised sedatives. He suggested that the phenomena were due to the irregular stimulation of the two halves of respiratory centre. He had noticed that at first only the upper part of the chest wall seemed to move on inspiration but as the respiratory movements quickened they gradually involved the whole thoracic wall. Paraldehyde was the only drug which was of service.—Dr FOX and Dr GRANT each mentioned one case and Mr JOHN ADAMS mentioned two cases of recovery after Cheyne-Stokes respiration.—Dr F C TURNER read the notes of a case of Acute Strangulation of the Ileum by an Omphalomesenteric Band successfully treated by operation.—Mr F G BROWN related a case of sudden Acute Obstruction, where after seventy two hours of vomiting laparotomy was performed. The patient died on the eleventh day. At the necropsy acute kinking of the descending colon was found to have been caused by bands.—Dr HINGSTON FOX mentioned a case where he had successfully performed Abdominal Massage for Obstruction.—Dr TURNER, in reply, said that these cases were usually very acute, and no time ought to be lost before resorting to operation.

SOCIETY OF MEDICAL OFFICERS OF HEALTH—At the meeting on March 22nd, Mr Shirley F Murphy, President, in the chair, Dr NIVEN, having laid before the Society a memorandum issued by the North western Branch on the Prevention of Phthisis referred to the now almost universal recognition of the communicability of tuberculosis, complicated as the question was with those of its long incubation, heredity and intercurrent forms of disease. The idea was first grasped by the Italian physicians a century ago, but it was about thirty years since Villemin formulated it as clearly as was possible before the rise of bacteriology. He was followed by a number of experimenters in every country. Amongst the points established by Dr R. Koch was that, though capable of growing only in the presence of moisture and within certain limits of temperature, the bacillus tuberculosis produced in the body highly resistant spores, which retained their vitality and virulence unimpaired in dried sputa for 140 days or longer, and that it was by the pulverisation and aerial diffusion of these that they gained access to the respiratory passages. Koch proved by pure cultures the identity and inter-communicability of human, bovine and indeed, of all mammalian tuberculosis, but the non identity, original or acquired, of that of birds, the two requiring for their development the different temperatures of the mammalian and avian bloods. Dr G Cornet had done more than any man in the practical application of this knowledge, and his works were models of scientific research. He had shown that the great source of infection was in the dust deposited on ledges of walls furniture &c. Bacilli could generally be grown from the dust of rooms occupied by the phthisical unless great care were given to the disposal of sputa, but elsewhere and in the streets only negative results were obtained. Between the ages of twenty and thirty half the deaths of women were from tuberculosis, the milk of tuberculous cows contained the bacilli even when the udders were not diseased. Doubtless milk was the cause of much tuberculosis amongst children, though there were a few cases on record of truly congenital disease. Calves, however, were seldom affected. Local lesions and pulmonary catarrhs pre disposed to tubercle, and the influence of damp was indisputable. He wished that the memorandum, amended in some details should be distributed amongst medical men, and phthisical patients would thus learn the danger of infecting others and of precluding their own recovery by constant self infection. He advocated the establishment of isolation hospitals in healthy open country sites, as a boon to the suffering poor and a means of checking the extension of the disease. He would have it made notifiable, with precautions as at Oldham, against multiple notifications, and showed by statistical tables that the cost would not be any difficulty. Tuberculosis in cattle should be brought under the Contagious Diseases (Animals) Act and county veterinary

inspectors should be appointed with the control of dairy farms and power to order the slaughter, with reasonable compensation, of obviously diseased animals.—Mr PAGET testified to the good effected in several Lancashire towns by voluntary notifications and disinfection.—Dr HERON said that in the western islands of Scotland there had long been a firmly-rooted belief in the communicability of phthisis and the most rigid isolation of the sufferers. He thought that if infection &c were avoided any so-called hereditary tendency might be disregarded.—Drs WILLOUGHBY and SYKES and Mr ARMSTRONG having taken part in the discussion, Dr NIVEN replied.—Mr ARMSTRONG then moved a resolution on the sale of tuberculous meat, which elicited considerable discussion, and which, at the suggestion of the President, was passed as a provisional expression of opinion only, pending the report of the Royal Commission. Dr SYKES considered any such resolution premature until by the substitution of public for private slaughter houses the examination of meat should be practicable at least in large towns.—Mr ARMSTRONG maintained, on the other hand, that the ends of inspection must be defined before the practice was undertaken. In Newcastle they had already notifications of bovine tuberculosis.—Dr HERON wished it to be known that the Society did not consider tuberculosis to be merely a local affection, though so long as the lesions were strictly localised the entire carcass need not be condemned. With this reservation the resolution was carried unanimously.

ROYAL ACADEMY OF MEDICINE IN IRELAND

SECTION OF PATHOLOGY

Fracture of Neck of Femur—Adenoma of Stomach.—Tuberculous Disease of Urinary Organs—Tuberculous Peritonitis—Ulcer of Stomach

A MEETING of this Section was held on Feb 17th, Mr F. A. NIXON, in the chair.

Professor E. H. BENNETT exhibited three specimens of Extra capsular Fracture of the Neck of the Thigh bone, in which the ordinary method of impaction was reversed the lower fragment being driven into the upper, and in which also the great trochanter was unbroken. He discussed the recorded cases of this variety of fracture and the recorded exceptions to the typical extra capsular fracture, referring particularly to the necessity of admitting forces other than falls or blows on the hip as causes of this form of injury.—Dr MYLES said he had examined a large number of specimens, and he thought these so called extra capsular fractures might be classified into those beside the head of the bone and those in the neighbourhood of the greater trochanter.—Professor BENNETT stated that intra and extra capsular fractures of the neck were each of definite type and were respectively inside and outside the capsular ligament.

Mr CONOLLY NORMAN made a communication on the subject of Adenoma of the Stomach, and exhibited a specimen showing this condition. The patient had been an idiot, thirty four years old. He was capable of complaining, but made no complaint of pain, and presented no symptoms referable to the stomach. There was no vomiting. His last illness was characterised by rapid wasting, without fever. There were sometimes mild attacks of diarrhoea, and there was rapidly increasing debility. At the necropsy the thoracic viscera were found to be normal. The liver was somewhat engorged, otherwise the abdominal viscera were normal, save the stomach. There were no enlarged glands. The mucous membrane of the stomach was everywhere thickened, and presented all varieties of polyposis, from large dendroid projections to small sessile wart-like growths. There was no ulceration and no tumour which could have been felt ante mortem. Microscopically the dendroid growths were found to consist of tubes and cysts lined with glandular epithelium. Between these tubes and cysts there was a good deal of muscular tissue, which seemed to be derived from the muscularis mucosae. Mr Norman pointed out that this case differed from the cases described by Brissaud in the youth of the patient, and from Menetrier and Rouillier's cases by the variety in form which the polypi presented.—Mr F. A. NIXON remarked that very frequently, in patients of weak intellect, subjective or objective symptoms are very badly marked. He remembered a case of melancholia in which the patient had a most extensive pleural effusion, and yet he

made no complaint nor had he any dyspnoea.—Mr NORMAN in replying, said he had met quite a number of patients of this class who died of phthisis and yet had no cough.

Dr H. T. BEWLEY showed the Urinary Organs from a man aged twenty four who had suffered from hip-joint disease since he was nine years old, the sinuses not closing till he was twenty one. He then began to suffer from frequency of micturition, which grew worse, the urine being mixed with blood and pus. Some eighteen months afterwards, being one day unable to relieve himself, he suddenly felt something give way, and the desire to micturate ceased. After some hours he passed a large quantity of urine per rectum. After this he passed nearly all his urine in this way. He gradually got weak and died in December, 1892. At the necropsy both kidneys were enlarged, the right consisting of a number of cavities with their walls, some of which contained thick green pus and others dry putty-like material, the left being enlarged and showing ulceration commencing at the papilla. Scrapings of these ulcers showed many tubercle bacilli. The ureters were thickened, but everywhere pervious. The bladder was small, its walls thin but inelastic, and its mucous membrane had disappeared. There were deep ulcers in the prostatic urethra at each side of the veru montanum, from which a sinus, admitting a No 12 catheter, passed backwards and opened into the rectum about two inches and a half above the anus. Through this sinus the urine had passed into the rectum. The rectum was otherwise normal. Both lungs showed traces of old tubercular mischief in their apices. Dr Bewley called attention to the rarity of such sinuses opening from the prostate into the rectum. It seemed, too, that in this case the sphincter retaining the urine in the bladder had been the muscles of the membranous urethra, as the prostatic urethra must have been full of urine at the time the sinus opened into the rectum. The mucous membrane of the rectum was perfectly normal, except for two very shallow ulcerations. Might it not be possible for a surgeon to open the bladder into the rectum with more comfort to a patient in cases of irritable bladder than into the perineum?

Mr CONOLLY NORMAN described a case of Tuberculous Peritonitis simulating Malignant Tumour. The patient—a male—was a person of unsound mind, who, under the influence of delusions, would not permit proper examination until almost the end. He had no cough. He wasted, became sallow, and finally slightly jaundiced. When he at last permitted examination nothing was detected amiss with his lungs, he was slightly ascitic, and a large tumour lay like a bar across the abdomen about the level of the umbilicus. This mass was movable. The diagnosis of cancer of omentum was arrived at, probably colloid, and secondary to cancer of the stomach. At the necropsy, however, it was found that there was no cancerous growth in the stomach or intestines. All the mesenteric tissues were thickened by dense infiltration. The great omentum [exhibited] formed a great mass lying right across the abdomen, smooth and rounded in general outline, between two and three inches thick at the thickest part. Sections under the microscope showed that the growth was tuberculous.

Mr CONOLLY NORMAN also exhibited the Stomach and Liver of an old woman who died of phthisis. While under his care she had exhibited no stomachic troubles. The stomach, at a point near the cardia and along the lesser curvature, was firmly adherent to the left lobe of the liver this lobe being small and hard. The site of the adhesion was marked by a firm old cicatrix in the stomach. The lesion was probably of very old standing and was interesting as showing that a perforating ulcer of the stomach is not necessarily fatal.—Mr F. A. NIXON asked if there was any explanation for the statement that tuberculous peritonitis could be cured by abdominal section and drainage of the peritoneal cavity.—Mr J. HARRISON SCOTT said he had seen a case of tuberculous peritonitis cured by that method.

SECTION OF SURGERY

Acute Intestinal Obstruction and its Treatment

A meeting of this Section of Surgery was held on Feb. 24th, Mr NIXON in the chair.

A number of remarkable living and card specimens were exhibited amongst them being a successful case of Ligature of the Innominate, exhibited by Mr COPPINGER, who mentioned the leading facts in connexion with the case. Several members remarked on the extreme interest of the specimens.

Mr Coppinger said he intended to read a paper on the case at some later date.

Mr McARDLE read notes of a case of Laparotomy and free incision of the Sigmoid for Volvulus. The steps in the operation on which he laid stress were First, that the bowel should be incised, not punctured, secondly, that thorough irrigation with warm water should be carried out after incision, not only by passing a tube through the wound in the bowel but by passing a long rectal tube upwards from the anus so as to completely empty the intestinal tract. The third point he laid stress upon was the manner of incising the intestine. Mr McARDLE believed that to evacuate the small intestine a transverse incision is best, whilst the opening should be in a longitudinal direction and in the band of linear fibres opposite the meso-colon when the large intestine is the seat of obstruction. Mr McARDLE gave his reasons for advising this procedure and dwelt on the importance of the complete washing out of the intestine in all cases of obstruction with great distension.

Mr THOMSON thought that in this class of cases the surgeon was greatly handicapped, because in the great majority it was only after undergoing various courses of medical treatment that he was called in. He entirely concurred with the view of Mr McARDLE that they should not wait for the stage of collapse before opening the peritoneum, nor should they accept the doctrine that the peritoneum should not be opened if it was inflamed. In cases of acute intestinal obstruction, as in those of strangulated hernia, he submitted that they could not operate too early. He thought that time was lost by merely puncturing the intestine, and the only true way to deal with such cases was to incise the intestine and evacuate the contents as quickly as possible.

Dr MYLES thoroughly agreed in the great necessity of not merely removing the obstruction, but of emptying the bowel above the obstruction as well. He operated on a patient who had been suffering from obstruction for five days, and on opening the abdomen he found a calculus completely occluding the gut, but he did not douche the bowel above it—a fact which he now regretted. In a case of strangulated hernia he found the inguinal canal patent and in going down into the scrotum he found a volvulus in the hernial sac. He would like to know why tympanites is so fatal in abdominal surgery. In cases of fibroids &c he found the patients developed tympanites, and he confessed that the explanations were not sufficient.

Mr PATTESON said he had the privilege of being associated with Mr McARDLE in this case, and he thought that the result reflected credit on modern surgery. The necessity of early opening was sufficiently proved by the œdema of the meso-colon, to which reference had been made. He attributed the success of this operation to the thorough flushing of the lower part of the intestine, and where the large intestine is involved the colon could be washed out through the rectum.

Dr BALL referred to the futility of relieving the intestines by means of a trocar. If it was tried in the dead house it would be found impossible to evacuate the intestine beyond an inch or two with the trocar. The method of incision was undoubtedly the right procedure. A distended intestine had no more power of recovering its functions than a distended bladder and unless the intestine was emptied before the abdominal wall was closed the operation had only been half completed.

The CHAIRMAN said that, as regards the behaviour of the longitudinal muscular fibres, in a case of laparotomy he made an incision through one of the longitudinal muscular bands and it formed so complete a sphincter that it was necessary to divide it again so as to have an opening there.

Mr McARDLE mentioned that the meso-colon was twisted twice upon itself, so that the meso-colon must have been very long. He believed that exploratory laparotomy should be done more frequently. He would not attempt to explain the tympanites. He agreed with Mr Patteson that the immediate healing and rapid recovery were in a great part due to the thorough irrigation and not alone to the washing out of the intestine, but to washing out the stomach as well.

Reviews and Notices of Books.

Tuberculosis of Bones and Joints By N SENN, M D, Ph D, Professor of Practice of Surgery and Clinical Surgery in Rush Medical College &c Philadelphia and London F A. Davis and Co 1892

THIS is a very valuable monograph. It deals with a subject the interest and importance of which to surgeons are second to none. Our knowledge of tuberculosis has been almost revolutionised since Koch's discovery of the *bacillus tuberculosis*, and, if treatment has not advanced with quite the same giant strides, a perusal of this work will show that great advances have also been made in that department. Dr Senn's method of book making is somewhat peculiar, it consists very largely in collecting together a series of abstracts of, or quotations from, the writings of the "old masters" and the most recent investigators. There is very little of summary or generalisation and not very much of personal experience and opinion. The drawback of this plan is that the reader has to do his own work, it is not done for him, and as he sometimes finds conflicting opinions on the same page without any attempt at reconciling them he is apt to get bewildered. It is not the kind of book for the casual or careless reader. The advantages of Dr Senn's method are, however, very real, the reader gets his information first hand, he is enabled to draw his own conclusions, and to a very large extent sees the facts and not the author's conceptions of those facts.

There is of necessity much repetition in such a book, and we hardly think it requisite to sever so completely, as is here done, tubercle of bones from the same disease in joints. It is unnecessary for us to tell anyone acquainted with Dr Senn as a surgeon or an author that, with few exceptions, he will find only the very newest pathology and the most advanced therapeutics. The pathology is that of the tubercle bacillus, the treatment largely consists in the destruction of this organism. Intra articular and parenchymatous injections of iodoform are spoken of very highly. All surgeons who are called upon to treat cases of this widespread disease should read Dr Senn's book, not only for what it states, but for the full references to the best literature on the subject which it contains, so that if he wishes it the reader can himself pursue the investigation further. Personally we may say that we value the section on Diseases of the Joints more highly than that on Diseases of the Bones, but both are instructive, and having found the book a good one we gladly urge others to test its merits for themselves.

St Thomas's Hospital Reports 1890 New Series. Edited by Dr HADDEN and Mr ANDERSON London J & A Churchill.

THIS volume of reports has been compiled in a manner that reflects great credit on the hospital from which it issues, and it would be well for the profession if a similar one were produced by each of our large institutions for the care of the sick. A full record of the in-patient work is given under the following headings: Medical Report, by Dr H. W. G. Mackenzie, medical registrar, Surgical Report, by Mr E. Solly, surgical registrar, Report of the In-patient Department for Diseases of Women, by Dr C. J. Cullingworth, Report of the Ophthalmic Department, by Mr W. G. Laws, and in the out-patient departments—Report of the Midwifery Department, by Dr Cory, Report on Diseases of the Skin, by Mr L. Scudamore, clinical assistant, Report on the Aural Department, by Mr R. Lake. Only those who have been engaged in compiling statistics of the kind here published can fully appreciate the amount of labour expended in the production of such tables by a conscientious registrar, on whose skill

DENTAL HOSPITAL OF LONDON—At a special meeting of the subscribers to the funds of this hospital the resolution passed at the annual meeting to the effect that the trustees be authorised to apply the general funds to the purchase of a new hospital was confirmed.

will also depend the way in which such abstracts of important cases as are appended to the three principal reports are made. These appear to be too diffuse in the report of the surgical department, which shows some signs of hastiness in preparation and want of care in revision of proofs. For instance, under the heading of Scirrhus of Breast and Glands, we find in the general summary thirteen cases entered with no deaths, but in the special summary at the end of the report two cases are recorded in which operation was performed for that condition, both of which terminated fatally, again, under the heading of Vesical Calculus nine cases are found whilst in the general summary, in a special table under the same heading ten are described. It must surely be a mistake to say that intestine and sac were both excised in a patient suffering from strangulated femoral hernia of only thirteen hours' strangulation. A fact of great importance is shown in the absence of any case of pyæmia arising in the hospital in the surgical wards, one patient unfortunately developed, and died from, that disease in the obstetric ward. Only sixteen cases of erysipelas occurred in the surgical wards and the number of these cases is gradually diminishing from year to year. We have not space to enter into a detailed account of these statistical reports and we have only given this amount of consideration to them because they are above the average in excellence, and we should like to see them approach even more closely the perfection at which they evidently aim.

The earlier, and larger, part of this volume is devoted, first, to obituary notices of former members of the hospital staff or lecturers in the medical school—Dr Thomas A. Barker and Sir J. Risdon Bennett, F.R.S., consulting physicians, Dr W. H. Stone, physician, and Dr Bernays, lecturer on chemistry, and, secondly, to monographs on subjects of interest to the profession. There is a contribution from the pen of the late Mr. Le Gros Clark, F.R.S., on the Sources of Popular Fallacies, and their Influence on Education, the Life History of some Surgical Procedures, by Mr. F. C. Abbott, B.Sc., on Extract of Malt, by Mr. Edmund White, B.Sc., Vegetable Growths as Evidence of Purity or Impurity of Water, by Mr. A. W. Bennett, Cysts of the Jaws by H. Betham Robinson, M.D. M.S., Three Cases of Early Tubal Gestation successfully treated by Abdominal Section, two of the cases after and one before rupture of the tube, by Dr. Cullingworth, Some cases of Removal of the Kidney for Chronic Disease, by Mr. Bernard Pitts, Acute Primary Suppurative Cellulitis of the Neck (Ludwig's Angina), by Dr. Sharkey, a Second Series of Cases of Head jerking in Children with remarks, by Dr. Hadden, Certain Cardiac Symptoms observed in cases of Gastric Ulcer, by Dr. W. M. Ord, a Clinical Lecture on some recent cases of Tuberculous Disease of Bones and Joints in Adults, by Mr. W. Anderson, an Abstract of an Address on some Points of Science and Practice concerning Cancer, delivered in 1877, by Sir John Simon, K.C.B., the Pathology, Course and Symptoms of Pelvic Cellulitis in the Female Sex, by Mr. H. Simpson, Specific Diseases considered with reference to the Laws of Parasitism, by Dr. Payne. Three of the most important contributions to the literature of the profession in this volume, besides that of Dr. Payne, are Tuberculous Peritonitis, its Various Forms, their Surgical Treatment, and Comparative Curability, by Dr. H. P. Hawkins, Albuminuria, and the Condition of the Kneecaps during and after Diphtheria, with tables and cases, by Dr. Mackenzie, and the results of treatment of 322 Compound Fractures of the Long Bones in the Hospital between the years 1881 and 1890 inclusive, by Mr. G. H. Makins and Mr. F. C. Abbott. That these various papers are interesting and of value is attested by the names of the writers. We think it is inadvisable to include in a report for the year 1890 obituary notices of those who have died since that year, and that it is also as a rule a mistake for con-

tributors to write on cases which have come under their observation since the year for which the volume is dated, although a late reference before the volume goes to press will often enhance the value of the record of a case or a report.

A Manual of Veterinary Hygiene By Veterinary Captain F. SMITH, M.R.C.V.S. Second Edition. London: Baillière, Tindall and Cox. 1893.

THE principles of hygiene are being applied to the management and treatment of the domestic animal more sedulously and with greater success than ever and the great benefits this application confers will doubtless in time very much diminish the need for the services of the veterinary surgeon. Within the memory of middle-aged men there has been a heavy reduction in the sickness and loss amongst animals due to diseases arising from the neglect or ignorance of hygienic laws, and this diminution will go on until there will be little but accidents for the veterinary surgeon to deal with. The greater attention paid to this subject is brought all the stronger before us by the comparatively rapid sale of Veterinary Captain Smith's manual, a second edition having been required at the end of six years from its first appearance. When first issued we had the pleasure of commenting favourably upon the work, and we can only repeat what we then stated, and this more especially from the fact mentioned by the author that he has made no alteration in it except a trifling correction in the chapter on ventilation, certainly one of the most important in the book. It may be remarked in reference to the ventilation of stables, especially in large cities where space is so scarce and therefore valuable, that the scheme of ventilation recommended by the author can seldom be carried out to its full extent, and all kinds of devices have to be resorted to in order to provide something like a fair supply of fresh air. A visit to many of the London stables would show how utterly inadequate the ventilation is to meet the requirements of an animal with such largely developed respiratory organs as the horse. No creature more enjoys and requires pure air and perhaps none of the domestic animals is less cared for in this respect. Veterinary Captain Smith's book gives a great amount of information with regard to the preservation of the horse's health and usefulness, and if the principles he enunciates cannot always be carried into practice it is certainly not his fault, but is rather owing to the circumstance that it is only too frequently impossible to adopt them in their entirety, no matter how desirous horse-owners may be so to do.

Advice to Intending Visitors to Cannes By H. BLANC, M.D. London: J. & A. Churchill. 1893.

IN this little work Dr. Blanc gives his impressions of the climate of Cannes and lays down some rules and regulations for the guidance of persons who resort thither. His account of the climate is a little vague and gives his personal impressions rather than definite meteorological statistics. He writes enthusiastically and is of opinion that there are few, if any, better climates in Europe than that of Cannes. We cannot by any means wholly endorse this opinion. Charming as is the natural beauty of Cannes, and many as are its artificial attractions the climate has some serious defects. The winds, especially the mistral, of which Dr. Blanc makes light, are certainly very trying to many invalids; the changes of temperature are somewhat sudden and the net physiological effect of the climate is much too stimulating for many patients. He recommends Cannes to "those in good health who desire a change or wish to avoid the cold and fogs of England and of the north, to convalescents from acute disease, to those whose overworked brain requires rest, to all those who in northern climes suffer from catarrhal affections, to the scrofulous, the lymphatic, the dyspeptic, to children and young adults affected with

tuberculous diseases of the bones, to sufferers from certain forms of phthisis and gout, to the rheumatic, to sufferers from some forms of chronic diseases of the kidneys asthma, functional albuminuria, and the effects of residence in tropical countries.” On the other hand, he thinks “Cannes should be avoided by those suffering from certain nervous affections, by those having a tendency to hemorrhage, those suffering from acute febrile phthisis and those who are prone to attacks of acute gout or eczema.”

LIBRARY TABLE

B Bradshaw's Dictionary of Mineral Waters, Climatic Health Resorts, Sea-baths and Hydropathic Establishments With a Map, printed in colours London Kegan Paul Trench Trübner and Co.—This useful and, in the case of chronic travellers, indispensable dictionary—would not the term Guide be more suitable?—calls for commendation. The information furnished by the book is preceded by chapters headed “Advice to Bathers,” “Hints to Visitors at Watering places” short articles which may be of service to persons who contemplate a brief trip or a more prolonged residence abroad, although in the case of valetudinarians it is always desirable to be guided by the advice of a medical practitioner who knows the circumstances of any particular case rather than to follow implicitly the general directions offered by books. A list of diseases for which the various waters are recommended is given, but of course this kind of information should likewise be accepted subject to the advice of competent medical authority. A table showing the quickest route, mode of conveyance &c., to the different health resorts is followed by an enumeration of the particular kinds of waters to be found in foreign spots. Then comes a list of medical practitioners named in the text and of their summer and winter residences. Finally the reader is presented with a list of “specialists” in London as well as abroad, famed for their skill in the treatment of special diseases. One would like to know by what means the editor was able to appraise the value of the advice and the propriety of the treatment adopted by the specialists named in the book, especially in the case of the London practitioners included in the list. These nominations should be omitted in future editions. A list such as this is, in our opinion most objectionable.

M P's Diary Facts, Ideas Suggestions Reflections and Confessions By JAMES THORNTON HOSKINS, M.A. F.R.S.L. First Series London Digby Long and Co.—We began our consideration of the contents of this volume with an impression so favourable as to awaken in our minds an anticipation of deriving both profit and entertainment from its pages. As we proceeded the impression became confirmed, and the conclusion was finally arrived at that the book was fitted to grace the library of any man of culture. Full of philosophical and psychological reflection, replete with sound deductions, illumined here and there with flashes of genuine humour, the whole based upon wide experience and a large acquaintance with men and things the volume is one that may be taken up at almost any time with profound satisfaction. We meet now and again with a discussion on deeply interesting and important topics, which are dealt with in a critical but at the same time a reverential spirit. Descriptions of mental phenomena, natural and morbid are given with a lucidity which would almost argue the possession by the author of an intimate personal acquaintance with the characteristic phases of those phenomena. A great many theories which have lately come into fashion are directly or incidentally touched upon and, whilst provocative of thought, are discussed in no cavilling fashion but in such a way as to leave the reader in a position to form his own conclusions on the points at issue. We notice a feature in the

book which, from our point of view, must be regarded as a disfigurement—viz., the introduction of names of contemporary medical practitioners in connexion with incidental references to illness in the cases of the author or his friends. Possibly it may not have occurred to him—not being a member of the medical profession—that laudatory notices of the successful treatment carried out by his medical advisers, must have been very distasteful to the professional gentlemen thus favoured. A similar remark may *mutatis mutandis* perhaps be justified with respect to the political bias of the author which is sometimes made unduly prominent in his pages. But that is a point with which we as medical journalists, have no immediate concern. With these reservations we can confidently commend the book to the attention of our readers.

Margate as a Health Resort By H. EVELYN CROOK. M.D. Lond., F.R.C.S. Eng. Margate *Keble's Gazette* Office 1893.—There can be no doubt that Margate possesses some great advantages as a health resort. It has one of the lowest rainfalls in England—viz., 23.31 inches, with 169 days on which rain falls, it has a dry subsoil, a relatively large amount of sunshine, and nearly all the prevailing winds are sea breezes. The drainage has recently been remodelled and is now much more satisfactory than formerly. The death rate is very low—viz., 13.9 per 1000 with a zymotic death rate of only 1.46 per 1000. The climate has a high reputation in scrofula. It is also useful in early phthisis, chronic bronchitis, chronic pleurisy and emphysema, diseases of the heart and some forms of paralysis. These points are well brought out in Dr. Crook's little work.

DISLOCATION OF THE PATELLA “EDGEWAYS”

To the Editors of THE LANCET

SIRS—I am led by the paucity of cases of this kind which have been reported, and which have been successfully treated to bring the following one to the notice of the profession through the medium of the columns of THE LANCET.

Early on the morning of Jan. 9th I was called to attend a labourer, aged eighteen who had ‘put his right knee out of joint’ by falling off the shaft of a waggon. On my arrival I immediately diagnosed the above condition by the peculiar appearance of the knee joint, there being a well-marked ridge with deep depression on either side. The patella was firmly wedged down into the trochlear surface of the femur and the articular facets could be distinctly felt beneath the skin upon the outer side of the limb. On account of the extreme pain caused by attempt at flexion of the knee, or in attempting to lift the patella it was found impossible to reduce without the aid of chloroform, accordingly, help having been procured and the patient having been put under the influence of the drug I tried to reduce by forcibly flexing the knee-joint, as also by lifting the patella, but without avail, so that as a last resource I flexed the hip-joint with the leg perpendicular and firmly pushed the patella downwards in the direction of the hip with the result that it immediately slipped back into its proper position. A back splint was then applied and the knee left bare for the application of cold lotions. The patient was kept in bed for six days and then allowed to get up, when he could walk properly on the splint being removed. The knee was bandaged for a few days when, at his own request he was allowed to return to his work, flexion being normal. I have seen him since several times and he informs me that he is ‘quite well and never feels aught of the knee now, and the knee is perfectly normal.’

I am, Sirs, yours truly

J. T. ROGER MILLER, I.S.A. Lond.,

House Surgeon to the Malton Public Dispensary District Medical Officer for the Leavening District of the Malton Union &c.

THE LANCET.

LONDON SATURDAY, APRIL 1, 1893

THE *Medical Record* of New York of Feb 25th contains a short though interesting paper advocating a less severely antiseptic treatment of puerperal cases than that which is now in vogue and which has certainly diminished in a most gratifying way the mortality of lying in hospitals. To those who are impressed with the physiological character of labour, and who are accustomed to regard the evacuation of the uterus with as much equanimity as the evacuation of the rectum, the necessity of the use of antiseptics before, during and after labour, if pyrexia is to be prevented and the death rate lessened, may seem surprising. Dr WORK, the writer of the paper under consideration, is happily able to say that during the first five years of his professional life 300 pregnant women came under his care, that in no case was there puerperal infection, and in none was the mother disinfected prior to delivery. All are alive so far as he knows, yet the deliveries occurred under the ordinary rough conditions of country practice, in the midst of epidemics of diphtheria, scarlet fever and small pox and it was necessary to treat these and all other diseases common to such practice on the same days, and oftentimes in the same house with, the parturient woman. This is a very happy result, on which Dr WORK is to be congratulated. But we do not think that it should be allowed so to influence the minds of his readers as to produce any relaxation in the use of those measures which have been so conspicuously shown to reduce the rate both of suffering and of death in lying in hospitals, where such sequelæ of confinement had become a scandal so great as to require the temporary closure and almost the abandonment of those institutions. It must be clearly understood that the delivery of a woman and her condition thereafter are by no means such simple questions as the ordinary evacuation of the rectum and the bladder. The bare surfaces left after labour and the acute changes necessitated in the emptied uterus are doubtless physiological conditions, but physiological conditions which border closely on pathological ones and which invite the action of agents whose existence was not suspected a generation back, and whose intense pathogenic activity has been placed beyond all doubt. Herein the special vulnerability of the lying in woman is amply demonstrated and this fact renders all reasonable precautions on the part of her attendants, whether medical or nursing, a most serious duty and the neglect of such precautions an act of inhumanity. No excuse can be offered for the medical man or the nurse who harbours in the nails or in the hands or on the clothes any infection which with extreme cleanliness and care and the use of an antiseptic can be removed or destroyed. We are glad to find that Dr WORK recognises to some extent the antiseptic principle, for he tells us that, in every case he attended, a vaginal injection of warm previously boiled water, with fifteen drops of carbolic acid to the quart, was

insisted upon daily, being first used twenty four hours after delivery and continued up to the cessation of the lochia. The power of aseptic or antiseptic measures is shown not merely in private practice, where parturition has always compared favourably with the same process in lying in hospitals, but in the latter institutions themselves. Dr PRIESTLEY lately showed in a paper read before the Hygienic Congress that in the Maternity Hospital at St. Petersburg, a city where both general and puerperal mortality are high, in a period of three years previously to 1876, by a hygienic discipline almost like that of a prison for the exclusion of infection, and by scrupulous cleanliness, there had been only one death from puerperal fever in the whole establishment, and this was in the case of a woman who was brought to the hospital ill and who died three days after the birth of her child. Antiseptic measures not only almost abolish mortality from puerperal fever, but they reduce to a minimum the risk of the puerperal state and make the occurrence of a rise of temperature in a lying in woman a rare event, an improvement not only for the mother but for the obstetric practitioner, who feels a peculiar responsibility for high temperatures in such cases. In conclusion we must express the hope that "conservatism" will not be too self complacent, and, seeing that each patient should be afforded the highest possible degree of protection from septic poisoning, our opinion that the systematic use of antiseptics should be observed as a matter of routine in every case. It is impossible to over estimate the importance of the thorough disinfection of the hands and nails of practitioners and nurses.

DR. J. S. BILLINGS has recently discussed in the *Forum* the subject of "Medicine as a Career." The key note of his views is struck in the opening sentence, in which he says "To the young man about to choose a professional career medicine at this time offers opportunities for the employment of the highest mental faculties, for the increase of knowledge, for usefulness to the world, and for the attainment of true happiness such as no other profession presents." Companions are always hazardous and frequently futile, so we prefer to leave on one side the question of the merits or demerits of other professions and occupations and follow Dr BILLINGS in so far as his interesting remarks deal simply with the intrinsic advantages, opportunities, and satisfactions of the career of medicine.

The first point in favour of that career is that if the great prizes are few the blanks are also comparatively few. Merit cannot command success with unerring certainty in any pursuit, but it will hardly be denied that merit, moral and intellectual, has as good a prospect of substantial reward in the profession of medicine as in any other great sphere of human activity. Success must not be wholly measured by material results. The most desirable career in life is, as Dr BILLINGS says, one which "has secured a happy home and sufficient means to support it, although it may not have led to wealth, which has brought to its pursuer the approval and friendship of those best acquainted with his life and work, although it may not have made him famous or given him decorations or formal honour, which has made his advice valued and sought for by those who know him although it may not have given him an executive office or

made him a ruler over his fellow men." Such a career, he continues, "does not protect from the afflictions and sorrows common to humanity but it does away in a great measure with boredom and *ennui*, with weary waiting for something to turn up and the work itself is the best resource against inevitable grief. The man who achieves such a career has not been dependent on his acquaintances for his happiness, he has not fretted and worried because his family or his friends or his associates or the State have not recognised his merit according to his conception of it, for he has acted on the principle that he exists for their benefit, and that they are not merely his appendages." Such a result, we rejoice to believe, is capable of attainment by the great majority of the practitioners of medicine and the picture painted in these weighty words is happily no rarity, but of common occurrence.

The second great recommendation of the career of medicine is its suitability for the exercise of the highest powers of the intellect. There never was a time when the highest cosmic and ethical problems were so largely viewed from the standpoint of physics and physiological chemistry as to-day. The nature of the soul, the meaning of the will, the limits of personal responsibility, the laws of healthy psychical as well as physical development, the regulation of marriage, the abatement of crime—on these and on a host of kindred problems it is now universally agreed that the physiologist and the physician must be accorded a most respectful hearing. They may not be able to solve all the difficulties which these great topics raise, but no one seriously questions their competency to afford some of the most important materials for a solution. As Dr BILLINGS happily remarks, "Of all men the skilled physician stands nearest to the veil of Isis, which is becoming thinner though it may never be lifted." The intellectual stimulus of the career of medicine was never greater than to-day. We have achieved much, but we seem to be on the verge of greater discoveries than any that have marked the history of the past. The facts as yet only half understood, relating to such subjects as protection and immunity from disease, inoculation, phagocytosis the natural history of bacteria, brain physiology and many other subjects, open up vistas of illimitable progress and of new scientific methods of the ultimate results of which no man can predict the possible value.

The practical utility of medicine is the next point on which Dr BILLINGS has something to say. "Consider the practical usefulness of medicine. It is not merely physical pain in individuals that is to be lessened or averted. Its results extend far beyond the man whose disability is removed, whose pain is diminished, whose death is delayed, and who is thus enabled to go on with his share of the world's work, they affect the welfare and happiness of his family or his associates, and it may be the interests of a nation, or of the world of science, of literature or of art. It deals also with the health of cities and of nations, with great commercial interests threatened on the one hand with epidemics and on the other by unwise and unnecessary restrictions imposed under the dictates of panic, the offspring of ignorance and cowardice, and its power and possibilities are inextricably involved in many social problems of the gravest importance to modern civilisation." As HERBERT SPENCER justly says the first indispensable condition for the man who wants to play an active and useful part in life is 'to be a good

animal." No doubt now and again a man of very feeble physical powers has achieved great things in art, science or literature, but a few brilliant exceptions must not blind us to the broad general rule that for average men and women and for the average work of the world a fair measure of health and physical vigour is indispensable for usefulness and happiness. The field of the physician may not be quite the highest of fields but it is the most absolutely necessary. If it be ignored and neglected all else will soon get into disorder.

Dr BILLINGS concludes his interesting paper by discussing the demands which the profession of medicine makes on its votaries. Those demands are "for good mental capacity, for a long period of study, for much patience, for powers of honest endurance, for quick and keen sympathies, for honesty and purity of thought, word and deed." He continues "The young man whom I would advise to take medicine as a career should have had a broad preliminary education, he should know his 'humanities,' and it is highly desirable that he should have taken his B.A. degree at a large university, not merely as a guarantee that he has had proper training, but because of the associations which he will have formed there, the ideas which are in the air, the intelligent sympathy with literature, science and art which will there be developed and which is essential to his future usefulness and happiness. He is then to take a four-years course of instruction in a medical school having ample facilities in the way of laboratories and hospitals. Following this should come a service of a year and a half as resident in a large hospital." We are quite in accord with these remarks and only regret that they are beyond the means and opportunities of so many candidates for the profession of medicine. Nothing can be more short-sighted than the present tendency to deprecate a liberal literary and general training as a preliminary to the medical curriculum proper. It is surely better that medical students should begin their professional studies with disciplined and well stored minds than in a state of crude immaturity.

In the recently published number of the Royal London Ophthalmic Hospital reports Dr ALDREN TURNER has an interesting paper in which he describes anomalous conditions of the pupils in various associations. The first group which he describes consists of eight cases all of which exhibited the Argyll Robertson phenomenon, whilst there was no loss of the knee-jerks. In the second series there were two cases exhibiting the same phenomenon, but on one side only, whilst there were no other symptoms of nervous disease. There were also two with symptoms of mixed sclerosis exhibiting a unilateral Argyll Robertson pupil, and one of general paralysis of the insane with the same condition. The third series described comprises two cases, and in these the pupils exhibited the loss of reaction to light, although they still reacted with convergence and there was optic atrophy but no loss of knee-jerks. With reference to these cases, Dr TURNER considers the question of how far the conditions indicate the actual presence of progressive degenerative changes in the central nervous system or the probability of their advent at a later date. The cause of the Argyll Robertson phenomenon is first considered. This may be due to changes

in three situations (1) In the peripheral nervous or muscular apparatus of the iris, (2) in the afferent or efferent limbs of the reflex arc, or (3) in the central mechanism situated in and around the grey matter of the aqueduct of Sylvius—either the antero lateral group of Darkschewitsch, a collection of small cells in the forepart of the oculo-motor nucleus, or in Meynert's system of fibres connecting the oculo motor nuclei with the optic tracts. By a consideration of the various conditions associated with the phenomenon in the different cases the conclusion is reached that the underlying changes were central, and the answer to the inquiry instituted is that the state of the pupil known as the Argyll Robertson phenomenon, existing by itself either on one or on both sides, is highly suggestive of the presence of an early progressive degeneration of the upper portion of the central nervous apparatus, and its presence should lead the observer to suspect the possibility of other symptoms of nervous disease, such as loss of knee jerks, optic atrophy, the presence or history of paralysis of some of the external ocular muscles, or the presence of altered sensibility in the distribution of the nervus trigeminus. Several other cases of interest are related in addition to those already mentioned, and a brief note is added on the oculo facial muscular group. The close association of the frontalis and orbicularis palpebrarum with the ocular movements has been long recognised, and MENDEL has stated the hypothesis that these muscles, although supplied by the facial nerve, are really eye muscles whose central innervation is the oculo motor nucleus. The clinical evidence brought forward in favour of this view consists in the fact that in hemiplegia the upper part of the face escapes, and in the observation long ago made by Sir CHARLES BELL that when a patient with Bell's paralysis is told to shut his eyes, although he may not be able to do so on the affected side, the associated upward rotation of the eyeball takes place, suggestive of a close functional and anatomical relation between that movement and the closure of the eye. Cases of bulbar paralysis also are said to show a striking dissimilarity between the affection of the upper facial muscles and that of the lower ones. If a case of total ophthalmoplegia were observed in which the frontalis and orbicularis palpebrarum were affected whilst the lower facial muscles escaped, the clinical evidence for the hypothesis would be fairly complete. Dr TURNER has not yet seen or heard of such a case. Experimental evidence has been furnished by MENDEL by means of experiments on rabbits after GUDDEN'S method, and the anatomical examination in a case of bulbar paralysis published in a recent number of *Brain* by Dr TURNER and Dr HOWARD TOOTH furnished valuable and important evidence in favour of such a hypothesis. In this case the frontales and orbiculares palpebrarum were intact, the lower facial muscles, on the other hand, being much affected, and the anatomical condition showed, amongst other things, an atrophied condition of the cells of the facial nucleus. The conclusion which the writers arrived at was that there passed, in the trunk of the portio dura nerve, fibres unconnected with the cells of the seventh nucleus to supply the unaffected muscles of the oculo-facial group. The oculo-motor nucleus was quite free from disease. Statements by BOETTIGER, SIMMERLING, MÜLLER and SPITZKA are also adduced in favour of this view, for the firm establishment of which there seems now only to be necessary a case of the crucial character already alluded to.

Annotations.

"Ne quid nlmis."

THE NATIONAL LEPROSY FUND

"It is understood that the London committee of medical and scientific men appointed in connexion with the National Leprosy Fund (of which the Prince of Wales is chairman) have almost completed the consideration of their report. The committee are said to be unable to agree with certain of the recommendations of the Indian Leprosy Commission, notably that relating to the segregation of lepers, it being held that leprosy is not a contagious disease and that segregation would inflict hardship on the patients without securing any advantageous result. It is improbable that the report will be absolutely unanimous, one member of the committee—a distinguished English specialist—being unable to concur with his colleagues as to the advisability of some of the proposed recommendations." The foregoing quotation is taken from *The Times* of March 24th, and is an addition to the far too numerous indications of opinion which have already appeared concerning the still unpublished report of the Leprosy Commission in English, Indian and American journals. Those who are responsible for the management of the affairs of the Leprosy Commission and their report, and for the action of the executive and special committees who have dealt with that report, should, in our opinion, ascertain how it comes to pass that a still unpublished document and the comments, which have, it is said, been made about it in committee, are discussed, from time to time, in an apparently authoritative way by some journals, when it is certain that if these statements have any foundation in fact they must have been communicated to them, either directly or indirectly, by someone who has spoken of that which he ought to have kept secret. For our own part, we have refrained from entering upon this subject of the report of the Leprosy Commissioners, because many months ago we received an assurance from the highest official source that no authorised statements touching this report, or the opinions expressed concerning it in the English committees, would be made public until it and all official documents relating to it were ready for simultaneous publication here and in India. These documents and the report are not yet ready, we are assured, to leave the publisher's hands both here and in India, and, therefore, no statement concerning the latter can be other than unauthorised.

DISPARAGEMENT OF HOSPITALS AT NEWCASTLE

WHATEVER the faults of hospital administration may be, these institutions are so indispensable that they should be criticised with due notice and in a friendly spirit. The *Newcastle Daily Chronicle* contains the report of a special meeting of the city council to consider the estimates of income and expenditure for the year. Amongst others was an item of £1240, which as surplus ought, as has been the custom of the council, to be divided amongst the charitable and learned institutions of the city. Of this sum £350 was assigned to the Newcastle Infirmary. Mr Anderson proposed to delete this item unless one or two representatives of the council were put on the infirmary board. Alderman Newton, a member of the medical profession, made a still more ungracious attack on the proposal, urging that any surplus should go to the reduction of the municipal expenses and adding that "the infirmary was run more for the advantage of the medical and surgical staffs than in the interests of the poor people who used it. These doctors divided amongst them £2000." He moved that the sum of

£12-0 be deleted from the estimates. When a medical man talks thus it is apt to be taken seriously. Fortunately Alderman Newton was well answered by Alderman Stephenson and by Alderman Stephens, the former saying that the donation was one of the unwritten laws of the council, which it would be unkind and ungenerous to break without notice, the latter gentleman showed that the moneys received by the medical staff were paid by students for lectures and that if the council paid the infirmar £560 instead of £350 it would be nearer meeting the expense to which it put the infirmary. The completeness of the answer was recognised by the council, who rejected the motion by 23 to 5. Alderman Stephenson pointed out that the council was represented on the infirmary board by the mayor and Alderman Stephens, but the council agreed to a letter asking for a larger representation.

DEATH OF A DENTIST FROM NITROUS OXIDE GAS

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THE INTERNATIONAL MEDICAL CONGRESS

AN Italian correspondent writes under date Rome, March 24th—"To last week's announcements I have to add an intimation from the Central or Organising Committee of the Congress that it continues to receive from medical schools abroad a steady influx of *adesioni* (pledges). Within the last few days the Hungarian Minister of the Interior has notified, in an autograph letter addressed to Dr Guido Baccelli, President of the Committee, that Hungary will be represented at the Congress by her medical councillor Dr Cornelius Thyzer and by Dr Samuel Papp, member of the Chamber of Deputies. The Minister of Public Instruction in the same kingdom has also written to say that his delegate will be Dr Ludwig Toth of the Medical Faculty

in three situations (1) In the peripheral nervous or muscular apparatus of the iris, (2) in the afferent or efferent limbs of the reflex arc, or (3) in the central mechanism situated in and around the grey matter of the aqueduct of Sylvius—either the antero lateral group of Darkschewitsch, a collection of small cells in the forepart of the oculo-motor nucleus, or in Meynert's system of fibres connecting the oculo-motor nuclei with the optic tracts. By a consideration of the various conditions associated with the phenomenon in the different cases the conclusion is reached that the underlying changes were central, and the answer to the inquiry instituted is that the state of the pupil known as the Argyll Robertson phenomenon, existing by itself either on one or on both sides, is highly suggestive of the presence of an early progressive degeneration of the upper portion of the central nervous apparatus, and its presence should lead the observer to suspect the possibility of other symptoms of nervous disease, such as loss of knee-jerks, optic atrophy, the presence or history of paralysis of some of the external ocular muscles, or the presence of altered sensibility in the distribution of the nervus trigeminus. Several other cases of interest are related in addition to those already mentioned, and a brief note is added on the oculo-facial muscular group. The close association of the frontalis and orbicularis palpebrarum with the ocular movements has been long recognised, and MENDEL has stated the hypothesis that these muscles, although supplied by the facial nerve, are really eye muscles whose central innervation is the oculo-motor nucleus. The clinical evidence brought forward in favour of this view consists in the fact that in hemiplegia the upper part of the face escapes, and in the observation long ago made by Sir CHARLES BELL that when a patient with Bell's paralysis is told to shut his eyes, although he may not be able to do so on the affected side, the associated upward rotation of the eyeball takes place, suggestive of a close functional and anatomical relation between that movement and the closure of the eye. Cases of bulbar paralysis also are said to show a striking dissimilarity between the affection of the upper facial muscles and that of the lower ones. If a case of total ophthalmoplegia were observed in which the frontalis and orbicularis palpebrarum were affected whilst the lower facial muscles escaped, the clinical evidence for the hypothesis would be fairly complete. Dr TURNER has not yet seen or heard of such a case. Experimental evidence has been furnished by MENDEL by means of experiments on rabbits after GUDDEN'S method, and the anatomical examination in a case of bulbar paralysis published in a recent number of *Brain* by Dr TURNER and Dr HOWARD TOOTH furnished valuable and important evidence in favour of such a hypothesis. In this case the frontales and orbiculares palpebrarum were intact, the lower facial muscles, on the other hand, being much affected, and the anatomical condition showed, amongst other things, an atrophied condition of the cells of the facial nucleus. The conclusion which the writers arrived at was that there passed, in the trunk of the portio dura nerve, fibres unconnected with the cells of the seventh nucleus to supply the unaffected muscles of the oculo-facial group. The oculo-motor nucleus was quite free from disease. Statements by BOETTIGER, SIEMERLING, MÜLLER and SPITZKA are also adduced in favour of this view, for the firm establishment of which there seems now only to be necessary a case of the crucial character already alluded to.

Annotations.

"No quid nimis."

THE NATIONAL LEPROSY FUND

"It is understood that the London committee of medical and scientific men appointed in connexion with the National Leprosy Fund (of which the Prince of Wales is chairman) have almost completed the consideration of their report. The committee are said to be unable to agree with certain of the recommendations of the Indian Leprosy Commission, notably that relating to the segregation of lepers, it being held that leprosy is not a contagious disease and that segregation would inflict hardship on the patients without securing any advantageous result. It is improbable that the report will be absolutely unanimous, one member of the committee—a distinguished English specialist—being unable to concur with his colleagues as to the advisability of some of the proposed recommendations." The foregoing quotation is taken from *The Times* of March 24th, and is an addition to the far too numerous indications of opinion which have already appeared concerning the still unpublished report of the Leprosy Commission in English, Indian and American journals. Those who are responsible for the management of the affairs of the Leprosy Commission and their report, and for the action of the executive and special committees who have dealt with that report, should, in our opinion, ascertain how it comes to pass that a still unpublished document and the comments, which have, it is said, been made about it in committee, are discussed, from time to time, in an apparently authoritative way by some journals, when it is certain that if these statements have any foundation in fact they must have been communicated to them, either directly or indirectly, by someone who has spoken of that which he ought to have kept secret. For our own part, we have refrained from entering upon this subject of the report of the Leprosy Commissioners, because many months ago we received an assurance from the highest official source that no authorised statements touching this report, or the opinions expressed concerning it in the English committees, would be made public until it and all official documents relating to it were ready for simultaneous publication here and in India. Those documents and the report are not yet ready, we are assured, to leave the publisher's hands both here and in India, and, therefore, no statement concerning the latter can be other than unauthorised.

DISPARAGEMENT OF HOSPITALS AT NEWCASTLE

WHATEVER the faults of hospital administration may be, these institutions are so indispensable that they should be criticised with due notice and in a friendly spirit. The *Newcastle Daily Chronicle* contains the report of a special meeting of the city council to consider the estimates of income and expenditure for the year. Amongst others was an item of £1240, which as surplus ought, as has been the custom of the council, to be divided amongst the charitable and learned institutions of the city. Of this sum £350 was assigned to the Newcastle Infirmary. Mr Anderson proposed to delete this item unless one or two representatives of the council were put on the infirmary board. Alderman Newton, a member of the medical profession, made a still more ungracious attack on the proposal, urging that any surplus should go to the reduction of the municipal expenses and adding that "the infirmary was run more for the advantage of the medical and surgical staffs than in the interests of the poor people who used it. These doctors divided amongst them £2000." He moved that the sum of

that have been tried from time to time. The exact make of the silk is another detail. Should it be Chinese twist, or floss silk? For the latter it is claimed by Dr. Spencer that it is both cleaner, and that it can be tied more tightly. It is certainly a mistake to use very thick silk with the view of avoiding breaking of the ligature. This is to be prevented rather by taking care not to jerk the ligature as it is being tied. On the other hand, too thin a ligature is more likely itself to break and to cut the tissues. A medium size is best. The general opinion did not bear out the suggestion that boiling the silk in carbolic lotion weakened it, and the advantages of this process are obvious. The three principal methods of tying the ligature after transfixing are (1) to cut the loop and tie the pedicle in two halves after crossing the ligatures, (2) the Staffordshire knot, and (3) to pass one free end round the pedicle, through the loop, and so on till it meets the other free end, and then tie. Whilst all three methods, properly managed, are good, the last is the simplest. With the first operators even of considerable experience may at times spend some seconds in ascertaining which end is the one they want. When the pedicle is thick it is certainly a good plan to hold the knot after the first hitch with pressure forceps whilst the second hitch is being tied, and when the pedicle is very broad it is an additional safe guard to tie the ovarian vessels by a separate ligature.

HARSH CONDUCT OF WORKHOUSE ATTENDANTS

ROUTINE and custom have each doubtless a legitimate place in every system of administration and it must occasionally happen that severe measures have to be employed in support of established rule. These observations it must also be allowed, will apply no less within the walls of the workhouse than elsewhere if the essential condition of order is to be maintained. It is at all times needful, however, that custom should be instructed by intelligence, and that a regard for discipline on the part of officials should not be allowed to blind them to the prior claims of humanity. The following cases tend to strengthen a belief that there are some persons of this class whose preference for a rough and ready method is too little controlled by better and milder considerations. In one instance a 'refractory' inmate of a London workhouse had offended by objecting to rise daily at 4 A.M. and to sit by an open window whilst his bed was made. It mattered not apparently that he was suffering from chronic phthisis. The rule required that he should rise and be chilled as above described and rise he must, and he could not be exempted from existing ward regulations. We may take it that his condition of health was not at the time critical. Nevertheless the unwisdom and harshness of thus exposing him whilst even weak is manifest. In another case elsewhere a boy was, out of mere spite, scalded to death with carbolic acid by an attendant who is now very properly expiating his cruel offence in prison. Such incidents as these cannot tend to foster public confidence in our parochial management. We fully believe that there are to be considered as exceptions to a better rule of justice and humanity which, on the whole, is faithfully observed. The recital of them reads badly notwithstanding and it is to be hoped that the responsible authorities will note this and will exert themselves to repress all such needless or wanton harshness on the part of officials.

SMALL-POX IN LONDON

THE circumstances under which small pox is being disseminated in London by the inmates of common lodging houses, casual wards and Salvation Army shelters has been matter of report to the London County Council and its medical officers and has been pointed out by the Metropolitan Asylums Board. Attention has also been directed to the same subject by Dr. Waldo, the medical officer of health of the parish of St. George the Martyr, who, on March 14th,

reported to the sanitary authority that of three cases of small pox two lived in common lodging-houses and one was an inmate of the St. George's Workhouse in Mint-street. The two former cases were detected by the medical officers at the relief station in the Borough High street and at Guy's Hospital. Dr. Waldo has traced some cases to the Salvation Army shelter in the Blackfriars-road, where they were living during the probable period of infection and for some time previously. He states that he has also received further information from medical officers of health and others of further cases of small pox presumably contracted at the same Salvation Army shelter, and he expresses the opinion that the spread of the disease might be largely curtailed if the Union medical officers would generally follow the good example set them in this parish and make a rule of inspecting all casuals before they leave the workhouse. Dr. Waldo believes the time has arrived for England to follow the example of Germany and make revaccination compulsory. Unfortunately at the present time the tendency is to relax the enforcement of the law requiring the vaccination of infants. It is therefore very difficult to believe that a proposal that revaccination should be made obligatory is likely to be entertained either by the Vaccination Commission or by Parliament. It is, however, possible for every head of a family to ensure that his household is protected against small pox, and as to those who rely on such protection as isolation of the sick in hospital can give we can only hope that the increasing difficulty attending the provision of small pox hospitals will have some weight in inducing them to rely upon vaccination. Certainly it is unfair to burden the well vaccinated with the cost of hospital provision necessary only for those who are negligent of vaccination.

SODA WATER SAYS SODA

A QUESTION of considerable importance and concern to the mineral water industry was decided at the West London Police Court last week. It was proved that soda water had been purchased by an inspector at two public houses which, under the provisions of the Sale of Food and Drugs Act, was not of the nature and substance demanded, in other words it was simply aerated or carbonated water and contained no soda. The magistrate said it could not be regarded as soda water, as there was no soda in it, it should be sold under the name of carbonated water. He therefore imposed a penalty with costs. Since mineral water making has been an industry it has been well known that ordinary soda water is rarely anything else than a simple solution of carbonic acid gas in water under pressure. In fact true soda water is an official preparation the liquor sodæ effervescens of the British Pharmacopœia, containing a definite quantity (CO grains to the pint) of the bicarbonate. It may therefore, be viewed as a medicinal agent, an antacid whereas the plain carbonated water is only a common beverage. It is safe to assert that by far the greater quantity of soda water is consumed as a beverage, and to substitute another name for it therefore, such as carbonated water would only introduce a good deal of unnecessary confusion. Of course if soda water B.P. is especially required it should be ordered and only then should true soda water be supplied. We do not see how the old name can now be changed, it would inflict certain hardships and a large amount of inconvenience upon the trade and the public. Would it not be enough if the trade were in future to adopt the use of the letters B.P. when real soda water is meant? Real soda water however being of the nature of a drug should, when specially required, be obtained from the chemist or direct from the manufacturers and certainly not from the publican. Probably most of, if not all, the soda water obtained at the bars of restaurants and other places of refreshment is 'soda water' and soda. If the term 'a brandy for whiskey' and

of the University of Budapest, whilst the Croatian Government will be represented by Dr Stappi. The Superior Board of Health of Hungary has also deputed as its commissioners at the Congress four heads of departments in State medicine to wit, Dr Ludwig De Csatory, Dr Josef Fodor, Dr Karl Retly, and Dr Abram Sonntag. From the Medical Faculty of the University of New York comes the announcement that it will shortly proceed to nominate its delegates to the Congress, and from the National Committee of Mexico a similar intimation that its chief medical schools will also be represented. For the greater convenience of the 'Congressists' the Central Committee, through its executive department, has arranged that the 'special counters' (*tessere speciali*) entitling the said 'Congressists' with their wives or daughters to a reduction of steamboat or railway fares will be distributed by the committees of their respective nationalities. The managers of more than one British railway (the Great Eastern, for example) will issue to the 'congressists' special tickets by which, on payment of his fare at the point of departure, the holder will make the return journey free of charge. One word more as to the 'Esposizione di Medicina ed Igiene,' which will be open from Sept. 15th till at least the middle of October. Its organising committee (President, Professor Paghani) announces that 'permits' entitling houses and firms to exhibit their wares are in much request, particularly from abroad, and that no time should be lost in forwarding consignments to their appropriate sections. The exhibition of recent additions to the United States' Pharmacopœia will, I understand, be at once typical and exhaustive."

SMALL-POX IN SCOTLAND

GLASGOW continues to be the chief centre of the disease, but though the cases have increased during the past fortnight the medical officers have not yet given up hope of being able to stem the outbreak. During the week ending March 18th there were 30 new cases and in the following week 16, the number in hospital on March 24th being 93. From Saturday till Tuesday last 5 new cases were reported. At Edinburgh the epidemic does not make headway, though one new case was reported recently and the number in the Canongate Hospital was 16. In Dundee there were no cases from March 12th to 24th, when two more occurred. Revaccination continues to be taken free advantage of. In Paisley the seventh case occurred within the burgh fully ten days ago. In the Vale of Leven, which had hitherto remained entirely free from the disease, 5 cases have appeared simultaneously in different localities and have been removed to hospital. In Castle Douglas, in a family of six persons, 5 have been attacked. Single cases are also reported from Boness, Dregburn, Irvine and the neighbourhood of Aberfoyle in Perthshire, the patient here being a navy on the Glasgow waterworks tract.

THE DUTIES AND PRIVILEGES OF NURSES

DR. LEDIARD of Carlisle has recently delivered a series of lectures on nursing. In his concluding address a prominent place was given to the consideration of hysteria and its appropriate modes of treatment. We pass over the details of symptoms which are universally familiar to consider briefly the lecturer's clear and practical observations on the causation and treatment of this troublesome condition. Probably we could hardly better describe its essential character than by quoting his own expression and regarding it as a "back ground" of hereditary neurotic tendency upon which a variety of complaints may be painted. These, he reminds us, are of truly morbid character and not merely imaginary. Underlying all is the fundamental weakness implied in an untrained and unstable will, and the first aim of all remedial action employed in cases of the kind must be to regulate and strengthen this erratic

faculty. Healthy activity of body must be promoted by physical exercise, three volume novels and afternoon teas being relegated to a quite subordinate position. The mind in like manner must be trained by employing knowledge and directness of purpose to stamp out an ignorance which results in objectless existence. By a natural transition to the practice of these precepts Dr Lediard proceeded to describe in terms of cordial commendation the duties and privileges of the nursing vocation. He reminded his hearers that their calling is no mere occupation, but a trust, the possession of which is an honour to womanhood. Enthusiasm and sympathy combined with intelligent observation were in its exercise the true guarantees of success, which in this case must be judged, not by conspicuous recognition, not always even by the accomplishment of the individual nurse's intended purpose, but by the proofs of duty patiently discharged and a gain of experience which might leave her profession the better because she had belonged to it.

DEATH OF A MEDICAL STUDENT FROM SEPTIC POISONING

WE regret to record the death of a student of the London Hospital from disease contracted in the discharge of his duties. Mr Nathaniel D S Towne came of a good medical stock, his father and grandfather having practised in Stoke Newington, where the family is widely known and esteemed. Mr N D S Towne entered as a student at the London Hospital in 1889, and was consequently in his fifth year of study. He had passed his first two examinations at the Conjoint Board and would soon have presented himself for the final examination. He was at the time of his death a clinical and post mortem clerk. About three weeks ago he poisoned his finger either in dressing an empyema or in the post-mortem room. A small abscess under the nail resulted and, following this, an abscess in the axilla, with a severe rigor. The axillary abscess was opened, but a high degree of pyrexia persisted and, later, further suppuration occurred in the axilla. As the result of this, profuse venous hæmorrhage took place, which was arrested with great difficulty. The pyrexia continued and exhaustion followed, leading to Mr Towne's death on March 19th. Mr Towne was a specimen of all that is best in the medical student—enthusiastic in his love of work, keen, punctual and conscientious in the discharge of his duties, regular and methodical in his studies, pure in his conduct, bright and genial in his disposition. His father, who died five years ago, was one of those self sacrificing and earnest members of our profession who earned not only the gratitude and respect of their patients, but, what is more rare, their affection. Mr Towne seemed, from the characteristics he had already displayed, destined to follow in his father's footsteps when cut down in the prime of his youth. Death is sad at most times, especially, however, is it sad in the young. This death is an illustration of the risks of our profession, not only in the actual discharge of duty, but in the necessary preparatory education.

LIGATURE OF THE PEDICLE IN OVARIOTOMY

IN the discussion on Mr Doran's paper at the last meeting of the Obstetrical Society of London there was a general agreement that the best method of treating the pedicle in ovariectomy and similar cases is usually by means of the ligature. Here and there, we believe, the method of securing the pedicle by the clamp and cautery is still practised, but the ligature has been adopted almost universally by the large majority of operators. As to several points of detail, however, there is still some difference of opinion. Thus as to the material for the ligature, its thickness and the kind of knot in which it should be tied, there is less agreement than might have been expected. Most authorities agree in preferring silk to kangaroo tendon, chromic gut, or the other substances

remainder consisted of 57 children, of whom 7 were vaccinated and 50 unvaccinated. The age incidence and the fatality in respect to the vaccination conditions are very instructive.

SANITARY IMPROVEMENTS IN OBAN

At a meeting of the Oban Town Council held on February 20th last, an able and exhaustive report was submitted by Dr Baily, the Medical Officer of Health. After pointing out the insanitary condition of certain properties, due either to insufficiency or total absence of drainage arrangements, and suggesting means for their correction Dr Baily pressed upon his sanitary authority the advisability of adopting a system of registration and certification of houses, such as we proposed in the report of our Commission on Sanitation in Relation to the Law and Practice of House Letting published in August, 1892, and which has already proved successful at Eastbourne, Folkestone and other towns. Dr Baily also urged the necessity of including measles under the Notification of Infectious Diseases Act and the importance of the sanitary authority providing not only a permanent building for the treatment of infectious diseases, but also a temporary hut hospital in the event of the unwelcome visitor, cholera, invading our shores in the summer. We are glad to be able to state that the Town Council has acquiesced in the wisdom of the recommendations of its medical officer of health by adopting both the plan of registration and certification of houses and the inclusion of measles under the Notification Act, whilst the provision of further hospital accommodation is also under consideration. Oban is a favourite resort of tourists from all parts of the British Isles during the summer, and it forms a central point from which holiday makers set out to visit the Western Highlands. It must, therefore, be obvious how closely dependent the prosperity of such a town must be upon its public health, and, whilst we congratulate the Town Council upon the enlightened policy on which they have embarked, we feel sure that such policy will materially increase the favour in which Oban is already held as a holiday resort.

FOREIGN UNIVERSITY INTELLIGENCE.

Basle—Dr Carl Haegler has been recognised as *privat-docent* in Bacteriology and Surgery.

Berlin—Drs E Grawitz, Paul Heymann and Hugo Neumann have been recognised as *privat-docenten* in Medicine, Laryngology and Children's Diseases respectively. Dr Franz Hilgendorf, Custos of the Zoological Museum, has been granted the title of Professor. Dr Paul Glan, who is well known by his invention of the spectro-photometer, has been promoted to an Extraordinary Professorship of Physics in the Philosophical Faculty. Professor Hamaan, who was formerly in Göttingen, has been recognised as *privat-docent* in Zoology.

Genoa—Dr Maurice Bourcart has been recognised as *privat-docent* in Midwifery and Gynaecology.

Harana—Dr Rafael Molla of Madrid has been appointed Professor of Clinical Surgery.

Karkoff—Dr T J Bogolomoff of St. Petersburg has been appointed to the Professorship of Medical Chemistry in succession to Dr Danielevski, who has gone to St. Petersburg.

Kieff—Dr V P Obrazmoff has been appointed to the Professorship of Special Pathology and Therapeutics. At the recent examination for the diploma of *Irach* (Medical Practitioner) sixty-five candidates presented themselves, of whom fifty-nine passed—twenty-four *cum eximia laude*.

Leprie—Drs Lenhartz, Karg and Döderlein have been promoted to Extraordinary Professorships of Medicine, Surgery and Midwifery respectively. Dr Urban has been recognised as *privat-docent* in Surgery.

Moscow—In the recent examinations for the diploma of Medical Practitioner there were 212 candidates, 191 of whom passed—13 with distinction.

Munich—Dr Barlow has been recognised as *privat-docent* in Dermatology and Dr Siegfried Molher as *privat-docent* in Anatomy.

Naples—Dr A. Pasquale has been recognised as *privat-docent* in Hygiene.

New York (Polyclinic)—Dr Florian Krug has been appointed Professor of Gynaecology. Dr E Dench Professor of Otolaryngology, Dr Katzenbach Professor of General Pathology, and Dr J Adler Professor of Clinical Pathology.

Strasbourg—Dr Pfitzner has been promoted to the chair of Topographic Anatomy in succession to Dr Joessel, deceased.

St. Petersburg—Lectures on Cholera have been arranged for students of all faculties so that those who may be employed in any administrative duty may be the better prepared to combat a recrudescence of the epidemic. As the University has no medical faculty, six *privat-docenten* from the Military Medico-Chirurgical Academy have been selected to give the lectures.

St. Petersburg (Military Medical Academy)—Drs Yavein and Volkoff have been recognised as *privat-docenten* in Medicine and Dr Tomashovski as *privat-docent* in Neurology and Psychiatry.

Tübingen—Dr Siemerling, Assistant in the Psychiatric clinic in Berlin, has been offered the chair of Mental Diseases, with the Directorship of the Psychiatric clinic. Dr Winteritz has been recognised as *privat-docent* in Gynaecology.

Vienna—Drs Hammerschlag and Kovacs have been recognised as *privat-docenten* in Medicine, and Drs R Frank and Gomperz as *privat-docenten* in Surgery and Otolaryngology respectively.

DEATHS OF EMINENT FOREIGN MEDICAL MEN

THE deaths of the following distinguished members of the medical profession abroad have been announced.—Dr Morlot, formerly professor in the Dijon Medical School. Dr G Herbst, Extraordinary Professor of Physiology in the University of Göttingen. Dr A. Boiescu, clinical professor of the diseases of children in the Bucharest School of Medicine. Dr Wm. B Davis, late professor of Materia Medica in the Miami Medical College, Cincinnati. Dr Wm W Dawson, formerly Professor of Surgery in the Medical College of Ohio, Cincinnati.

At a meeting held at 16 Cavendish square on Tuesday, March 7th, it was resolved that a "James Anderson Memorial Prize" be instituted as a memorial of the life and work of the late Dr James Anderson. A committee has been formed consisting of Sir Andrew Clark, Bart. (chairman), Drs Hughlings Jackson, Ferrier, Ormerod, Gilbert Smith, Levers, R. W. Burnet and Gerald Fitzgerald, the two last mentioned gentlemen to whom subscriptions should be sent, to act as secretaries to the London committee. The London committee will coöperate with the committee in Aberdeen to consider the details of the scheme.

DR. CHARTERIS of Glasgow has received an invitation from the Faculty and officers of the Post graduate Medical School and Hospital at Chicago to deliver an address in that institution on a subject allied to general medicine. The invitation comes through Dr Franklin Martin, secretary to the Faculty, who feels himself in a position to guarantee the presence of a large and appreciative audience on the occasion. It is proposed that the lecture should be given some time in September next.

At a meeting of the Medical Society of London, held on March 20th, Dr Robert Barnes was elected an Honorary Fellow on the nomination of the Council.

carbon," however, would tend to reduce the indiscriminate consumption of alcoholic beverages, we should gladly welcome it *vice* that of "brandy [or whisky] and soda" (obsolete)!

THE INTERNATIONAL SANITARY CONFERENCE

As it was agreed that the proceedings of the Congress should be of a private character no report of the discussions has been published. It is satisfactory to learn, however, on the authority of Vice President Herr von Hengelmüller, that the object of the Conference will most probably be secured, viz., an international agreement on such sanitary measures as will give rise to the smallest amount of restrictive regulation compatible with affording reasonable security to the populations concerned. It is to be hoped that one result of the Conference will be to relax, if not to remove altogether, some of the quarantine restrictions and to replace them by the application of such sanitary measures and practical remedies as are dictated by experience and a knowledge of hygiene.

THE COVENTRY PROVIDENT DISPENSARY

AN interesting event has just taken place at Coventry. The Coventry Dispensary has long been known as one of the largest and, in a commercial sense, one of the most prosperous in the country, but, like other similar dispensaries, it has appeared to members of the medical profession to have absorbed a large number of persons who were never meant to be included in the benefits of such institutions. The medical practitioners of Coventry requested the committee to receive a deputation on the subject, and it agreed to do so. The deputation consisted of Dr Milner Moore, Mr C W Iliffe, Dr Halg, Dr Rice, Dr Harman Brown and Mr Irving Day. The spokesmen were Dr Moore and Mr Iliffe, and they stated the abuses of the provident dispensary system with great moderation and care, showing that a system devised for the benefit of the wage earning classes had been turned to the uses of all classes. The consequence was that the better classes of patients, receiving attendance for very inadequate payments, were apt to receive more attention than others. Mr Iliffe said the better to do classes had availed themselves of the opportunity of obtaining cheap medical attendance, and the thing had become a gigantic commercial enterprise. More than half the population utilised the Dispensary. The method of paying a commission to a collector and giving him a free hand was the main cause of the disproportion between the poorer classes and the well to do. He thought the aggregation of so many in waiting rooms for a length of time must also be dangerous where infectious diseases had to be dealt with. The deputation suggested a wage limit of £2 earned by a man and his family. The members of the committee listened with attention, but they did not seem to agree with the main suggestion, arguing that £2 per week represented very different means, according to the size of the family, its healthiness &c. The conference may yet do good. It was conceived in a spirit of reasonableness, and the committee will be well advised in carefully considering the complaints and suggestions made.

RECENT PREVALENCE OF FEVER

It is gratifying to be able to report that the incidence of scarlet fever shows a definite decline. About a thousand cases were notified in the chief towns of England and Wales during the week ended March 18th, a diminution of close upon a hundred. Manchester, West Ham, Cardiff, Swansea and Birmingham contributed the most, next to London, which had less than a third of the total number of cases. The incidence of diphtheria was about the same—viz., 300, of which the metropolis furnished more than half, Cardiff coming next. London, on the other hand, showed a lesser incidence of enteric fever—viz., a fifth of the whole, Birmingham being next in order. During the same time 30 deaths occurred

in London from scarlet fever, 65 from diphtheria and only 5 from enteric fever. The London scarlet fever mortality was above the weekly average by 13, but there were fewer hospital admissions of that disease and fewer remain under treatment. Though not so many cases of diphtheria were admitted, the numbers under treatment remain about the same and the mortality has been the highest on record. The cause of this persistent prevalence of diphtheria in London and its serious fatality deserve the fullest inquiry. We learn that at Bristol and Grimsby the sanitary authorities are instituting prosecutions for illegal exposure of articles and persons infected with scarlet fever. This disease, as well as enteric fever and measles, is reported to be very prevalent in the Rhondda Valley of Wales. A mild but extensive epidemic of measles is prevailing, also, at Tadcaster, involving some 200 cases and causing the Board schools to be closed. The malady is raging at Brynamman, near Cardiff, and Downfield, near Dundee. This Scotch town does not seem able to get rid of its typhus fever, cases still occurring weekly. An alarming outbreak of puerperal fever, involving, it is said, 50 cases and 14 deaths, is reported from the Ogmore and Garw valleys of Mid Glamorgan. Scarlet fever is said to be endemic in these valleys and the drainage and sewerage are reported to be highly faulty. Many of the cases, however, have been traced to direct infection. The county council is making inquiry into the matter.

SMALL-POX IN THE PROVINCES

DURING the past fortnight there has been neither any very marked increase nor any notable abatement in the number of cases of small pox notified in the various districts of the country, and there have been few fresh districts invaded by the disease. Excepting the southern and western counties, the disease is now prevalent in the whole of England—in many parts, however, limited to a single case—whilst in others, where it has prevailed for months past, it still continues to recur with regularity in spite of the efforts of the sanitary authorities. In respect to the latter we note with regret that the question of hospital accommodation was shelved at a recent meeting of the Aberdovey Board of Guardians, although several cases have occurred in Hereford and the neighbouring counties. *Per contra*, there is much activity in South Wales to meet any emergencies which may arise, and it seems to be recognised that the best economy is that which finds a place prepared with means for the prompt isolation of patients. In the northern counties the disease is still very prevalent, and it may be noted that the Keighley district is becoming more and more a centre for the disease, which still persists at Bradford, Leeds and in many other parts of the West Riding. This long continued prevalence in a district once invaded is in accord with former experience, and it should impart caution to those who predicted a speedy termination to the outbreak at Leicester. The abatement in that borough during the past week or two must not be taken as indicating a cessation of the epidemic there. Not long ago a prominent anti-vaccinationist at Leicester actually attributed the mildness of the present outbreak when contrasted with that of 1871 to the fact that the proportion of unvaccinated to vaccinated children has been practically reversed. How far he was justified in his contention may be gathered from the fact that up to March 28th there had been 140 cases—83 adults and 57 children—with 10 deaths—2 adults and 8 children. These 8 children were unvaccinated, and the two fatal cases in adults were—one in a person who presented a single first vaccination mark and the other in a patient who had no visible mark at all. Of the 140 cases, 83 were adults, of whom 77 were vaccinated and 6 unvaccinated. The

warm blowing to the south westward.' We have here on the Lakes authority the statement that the Scilly Isles is the warmest spot in England, and with it the explanation, for Scilly is the most south west part of England.

What are the climatic features which are necessary to constitute a claim to any place being considered a 'winter health resort' 1. Mildness and equability of temperature. A place must not only be mild, but it must also vary but little from day to day, the extremes must not be great. 2. Abundance of sunshine with a moderate rainfall, so that opportunities of open air exercise are frequent. 3. Pure air, free from dust particles and organic impurities. 4. Absence of prolonged and high winds. 5. A light and porous soil, easily drained and warm. These five points are considered to be the most important and practically include all that is necessary to be taken into consideration. How far, then, do the Scilly Isles fulfil these conditions?

1. *Mildness and equability of temperature*—I have no hesitation in stating that the temperature of these islands is the least variable of any place in the United Kingdom. The following statistics are evidence of the truth of my statement. The mean temperature for the whole year is 52.1, the mean temperature for the winter months—i.e., from November to April inclusive—is 47.05, the mean range for the whole year is 15.1°, the mean range for the winter months is 3.7°. These figures are calculated from observations extending over the twenty years 1871-90. The absolute maxima throughout the twelve months in the year 1881, which is an extreme example, ranged between 54 and 70, and the absolute minima between 29 and 52, the monthly range being 21.3°. These latter data of extremes are taken from another source than the daily Weather Report and I cannot touch for their strict accuracy, but they are certainly to be approximately true at least. It is frequently objected that statistics and figures may be so manipulated as to apparently prove almost anything according to the prejudice of the individual dealing with them. Perhaps that is so and it is certain that the best intentioned may make mistakes in working out statistics, but I shall now adduce evidence of another kind which will be strongly confirmatory of there being but trifling error in the above figures. Tropical, not to mention subtropical, plants will grow in the open air only where they are not exposed to very low or great vicissitudes of temperature. Here is a short list of such exotics grown in these Islands, and more particularly in the Abbey Gardens at Treco—*Anopterus glandulosus*, of Van Diemen's Land; *Cornus virens*—*C. cardinalis* and *C. alba*, of New South Wales; *Arancara Biarvilli*—*A. Cookii* and *A. excelsa*, of More on Bar Norfolk Island; *Abutilon vitifolium*, of Chili; *Aloe scottiana*—*A. karbadoensis* and *A. spicata*, also very many other varieties, from the Cape of Good Hope; *Davallia zerotrichum*, of Mexico; *Dracena Draco* of the East Indies and Teneriffe; *Puya langhinosa*, of South America; and *Cassia corymbosa*, of Buenos Ayres. This list might be very greatly extended by the enumeration of many other specimens of exotic flora. Over fifty species of *Meibomia* and *Meibomia* clothe the rocks of Scilly and eucalypti and bamboo grow well. There seems to be no possibility of doubting or disputing the positive proof which the growth of luxuriant growth, too not mere existence—of these exotics furnishes of the mildness and equability of the climate of the Scilly Isles. They are unimpeachable evidence of the practical accuracy of the statistics brought forward. The means and means of taking meteorological observations are liable to error for it has been pointed out that the surface temperature of the ground is often from five to ten degrees lower than that indicated in the minimum thermometer in ordinary use. As the plants in and passing through the ground will feel and have to contend with the real temperature, their very existence is the best test of temperature, and in the case of Scilly at least is strong presumptive evidence, as I have already said, that the thermometrical readings and the surface temperature correspond very closely.

2. *Abundance of sunshine and slight rainfall*—I am verily heartily handicapped here, for I have to confess at the outset that, with regard to sunshine, I have no statistics to offer. There is no sunshine recorder in this station. Why the Meteorological Office has neglected to supply so important an instrument as the heliograph to these islands I cannot say. If an oversight, it is a deplorable one and ought to, as I hope it will, be remedied very soon. The instrument is not very expensive or very difficult to manage. The value of such observations cannot be exaggerated and their

absence can but be regretted. One's own impressions and the impressions of others are not reliable and certainly are incapable of being reduced to figures. I believe firmly that these islands would compare very favourably with most places as regards sunshine in the British Islands, but in the absence of corroborative evidence my opinion must be taken for what each may consider it worth. I might perhaps proceed to argue that, because the rainfall, as I shall show immediately, is small as compared with other places in the South West, therefore the probabilities are that sunshine is abundant unfortunately, however, there are other causes in operation besides rain clouds to prevent the sun from shining—such, for example, as fog. Negative evidence is at the best but of small value, so I think it better to bow to the inevitable and pass on to the consideration of the rainfall. The average for the year is 34.38 in. This is the result of observations extending over twenty years. Probably the principal reason for this very moderate rainfall as compared with other places on the south west and west coasts is the fact that the land lies low and offers no obstruction to the passing clouds. One point of interest and importance in connexion with the rainfall here is that it is rare for rain to fall continuously for the twenty four hours. Still more uncommon is it for rain to fall continuously for two or three days on end, as a matter of fact, I do not know of any record to that effect. More common—indeed the rule—is it for the rain to fall during the night and for the day to be fine, or the morning may be wet and the afternoon fine, or vice versa. The days on which even young children require to be confined to the house on account of rain are few and far between. I may at once say that there are very few days throughout the year in which the youngest, oldest or most delicate person may not enjoy some time in the open air. Associated with rainfall, and perhaps more important than it even, is the hygrometrical condition of the atmosphere. The mean temperature of the dry bulb thermometer for the year is 52.3 and of the wet bulb 50.3. The mean relative humidity therefore, according to Glaisher's table, is 85 per cent. This is high as compared with many places. It is above the amount or percentage of humidity which is considered most agreeable to health by people, but on the other hand more agreeable to those suffering from chronic respiratory affections. To this also in very great measure is to be ascribed the equability of the temperature the cool summer, and the mild winter. Again, to this same cause is due the fact that the daytime is less warm in summer and the night less cool in winter. There are disadvantages however attending this high degree of relative humidity. Should the temperature fall to any extent the change is felt more keenly than if the atmosphere were drier. It may be noted, too, that people coming from inland districts old people and very delicate persons are very ready to think that the thermometer must be at fault when the wind rises, the sensation of coolness from this same cause being greater than in reality, but after a short time they become accustomed to it and cease to feel any discomfort from slight changes.

3. *Pure air*—The geographical position of the islands and the absence of public works and manufactures are sufficient guarantees of the purity of the atmosphere. The Scilly Isles are the most advanced outpost in the Atlantic Ocean of Great Britain. Then if it be true, as is generally stated and believed that the ocean atmosphere is more highly charged with ozone than that over continents the islands must enjoy a large abundance of this most valuable and best of disinfectants. Indeed, to this and to the fact that the islands are fully exposed to every breeze that blows may be ascribed the comparative immunity of the inhabitants from many of the diseases so prevalent on the mainland. There are no stagnant places on the islands, the air is constantly being changed, as seldom or never is it perfectly calm. As might be expected, saline particles, in greater or less amount, are of frequent occurrence in the atmosphere, and are no disadvantage, but on the contrary may be considered beneficial. Life on the islands is quite comparable to life on board ship but with none of its attendant disadvantages, so free is the exposure and so perfectly pure the air.

4. *Absence of prolonged and high winds*—Here should be added the words, 'either very cold or very hot,' for it is inconceivable that the wind itself, even if it be high, can be prejudicial, provided always the temperature is comparatively mild. It is seldom or never perfectly calm in Scilly, there is generally a breeze and frequently a fresh breeze. Gales, too, are not uncommon—that is, comparatively speak-

THE *précis* of the London Post-graduate Course of vacation lectures and demonstrations to be given daily at King's College between April 17th and 28th is very full, and will include lectures and practical work in various branches of bacteriology by Professor Crookshank. The lectures will deal with the following subjects: The microscope, cultivation of bacteria, examination of air, soil and water, anthrax and malignant oedema, tuberculosis, leprosy and glanders, actinomycosis, typhoid fever and diphtheria, erysipelas and suppuration, tetanus, rabies and cholera. At the Parkes Museum Professor Wynter Blyth and Dr Sykes will give lectures and demonstrations on alternate days on subjects connected with hygiene and public health. Here, again, the programme will be very full and varied, and will deal with points of great interest and importance.

DR. FEDOROFF, of Moscow, publishes in the March number of the *Zeitschrift für Hygiene* some experiments made by him during last summer in the treatment of cholera by means of subcutaneous injections of a fluid prepared by adding cholera bacilli to an extract of thymus gland. The results were so far satisfactory as to justify further experiment.

AT a recent discussion on sewage farms and typhoid fever at the Medical Society of Berlin Professor Virchow expressed the opinion that the sewage farms of Berlin cannot be regarded as in any way tending to spread typhoid fever, and stated that no single case of it had been traced to the drinking of the effluent water.

THE Bucks County Council have agreed, by a majority of only three votes, to establish a sanitary committee. The numbers voting were twenty one for, and eighteen against, the motion.

ROYAL COLLEGE OF PHYSICIANS OF LONDON

ELECTION OF PRESIDENT

AN extraordinary meeting of the Comitia was held on March 27th, at which the principal business was the election of a President for the ensuing year. Sir Andrew Clark obtained 104 votes in a Comitia of about 120 Fellows, and was consequently elected for the sixth year in succession. A few votes were divided amongst Sir Richard Quain, Dr Wilks, Dr Russell Reynolds, Sir Dyce Duckworth, Sir Joseph Fayrer, Dr Broadbent and Dr Playfair. Licences were granted to Messrs G. H. Longton and C. A. Hill, and a communication from the War Office to the College in reference to the constitution of a Board of Examiners for the British and Indian Medical Services was read, the Secretary for War explaining that, whilst he could not accept the scheme suggested by the Royal College of Physicians, he would in future select examiners from the Conjoint Board of England for a period of four years each. A Member was granted permission to resign his Membership. The Rector of the University of Padua thanked the College for sending a representative to the Galileo Tercentenary, and Sir Joseph Fayrer presented to the library the books and photographs which had been presented to him as the delegate at the celebration. The Rector stated that there were two armorial bearings of Harvey at Padua, and he would send photographs of them to the College as soon as they were restored. The President then delivered his address, which dealt with the more important matters affecting the history of the College during the past year. After referring to some letters concerning the policy of the College, its numbers and the expense of keeping up the fabric, he pointed out the necessity, in order to provide for the comfort of the lecturers and the audiences, of a new lecture theatre, but said that the

finances of the College did not at present warrant even the necessary outlay for such an important improvement. The finances of the College were undergoing a severe strain in maintaining the research laboratories on the Embankment and it was suggested that a special finance committee should be appointed for dealing with the expenditure of the examination building. The Censors' Board had considered more cases of the giving of laudatory testimonials by members of the corporation than in previous years. The lawsuit with the General Medical Council as to whether the Licentiate was a complete qualification was the most important event in the history of the College for the year, and it was satisfactory to find that the verdict had been given in favour of the College, with costs. The registrar, Dr E. Liveing, was especially to be thanked for his arduous work in connexion with this case. The President, the Registrar, and Drs Norman Moore and Allchin gave evidence before the Gresham University Commission in July last. Sir Andrew Clark then referred to the deaths of Fellows in the past year, and detailed the most important points in the medical history of Drs Walshe, Gueneau de Mussy, James Ross and James Anderson. He dwelt most sympathetically and eloquently on the careers of these physicians and it was a subject of regret that time did not permit him to refer to the other deceased Fellows. On the motion of Sir Henry Pitman it was unanimously resolved that the President's address should be printed, to which Sir Andrew Clark assented.

THE ISLES OF SCILLY AS A HEALTH RESORT

CLIMATOLOGICAL NOTES

BY T. THORNTON MACKLIN, M.B., L.F.P.S. GLAS,
D.P.H. CAMB.,

FELLOW OF THE ROYAL SCOTTISH GEOGRAPHICAL SOCIETY ETC.

VERY little is known of the Scilly Isles by the general public, and I am safe in saying that still less is known of their very exceptional climate by medical men. In recent years, it is true, a considerable amount of attention has been called to them in the lay press by several writers, but I am not aware of any article concerning them—save that by Professor Charteris of Glasgow, which appeared in *THE LANCET* of Nov. 18th 1890—having appeared in any medical journal. Having been resident for nearly two years in the islands I desire to make known something of their rare climatic qualities. Much interesting and general information concerning their natural beauty and picturesque scenery will be found in that charming book by Walter Besant, "Armored of Lyonesse." Shorter and more generally descriptive articles have appeared in various magazines and the daily papers, and to these I must refer any who wish to learn more than I purpose to deal with here. My object is to furnish such meteorological data and to point out such climatic features as will go a great way in demonstrating the claim the islands have to be considered a "winter health resort." Mr R. H. Scott, secretary to the Meteorological Office, in a recent article in *Longman's Magazine*, says: "It is a very difficult thing to find trustworthy data as to the climate of health resorts. In the first place, there are comparatively few of these at which regular observations are taken, in the second, the residents of each place are in the habit of vaunting the advantages of their own town over all its rivals" &c. These remarks cannot, and do not, apply to the Scilly Isles, for, in the first place, it is one of the meteorological stations where regular observations are recorded, in the second place, it is not yet in competition with other places as a health resort, and no comparison is attempted. My object is to bring it under the notice of my medical brethren and to supply them with as accurate climatic data as can be found. These data may be considered thoroughly reliable, for they are for the most part, taken from the Daily Weather Report issued by the Meteorological Office, and such as are not so derived are capable of demonstration and may be verified by any one who will do himself the service and give himself the pleasure of visiting the islands. Before proceeding further I will make another quotation from the article already cited: "The warmest spot, taking the whole year round, is the Scilly Isles. They are a whole degree warmer than either the west of Cornwall or the Channel Islands. In winter the lines of equal temperature run generally north and south, the

some way the manner in which the heart, which is a self-acting muscle, would stop after the arrest of its nutrition by stoppage of the respiration with poisonous doses of chloroform, and he also pointed out the flaw in the Glasgow Committee's criticism of the Hyderabad Commission which appeared in the *British Medical Journal* of June 14th, 1892. But for Dr Gaskell's encouraging interest and friendly aid the object of my visit to England would have been frustrated.

4 Under these circumstances and impressed with the strongest possible feeling of obligation to Professors Foster and Gaskell I considered myself justified in requesting Dr Gaskell to undertake a critical examination of the tracings of the Hyderabad experiments and to make any additional experiments he deemed fit. I believed that Dr Gaskell and Dr Shore's work would support and amplify the conclusions of the Commission and, disappointing though at first sight the report is, I still retain this opinion in a modified form.

5 With regard to this point I cannot do better than quote the words of Sir Asman Jah, in the preface to the Report of the Hyderabad Commission: "I agree in the view that free criticism and discussion are essential to the final acceptance of the principles brought forward by the Commission." Dr Gaskell's criticism of the Commission's work was invited by His Highness's Government and his independent and unfettered inquiry has unquestionably furthered the end that Government had in view.

6 It is clear from a careful perusal of their report that Drs Gaskell and Shore are saturated with the prevailing notions of the action of chloroform on the heart. In this way their conclusions have been biased throughout and they have evidently interpreted everything in their experiments that could be thought to show such action as a proof of the prevailing belief. This attitude of mind has been confirmed by the results of their cross-circulation experiments.

7 Cross-circulation experiments are new to this particular research, and there can be no question that in their case Drs Gaskell and Shore have argued from an insufficient number of experiments of an excessively complicated character. Following Dr Gaskell's lead I have repeated these most interesting and important experiments in a considerably large number of cases, as it is only possible to do at Hyderabad.

8 The result of our cross-circulation experiments is that we have been able to place the proofs that chloroform does not directly affect the heart on a surer basis than ever Dr Gaskell's and Dr Shore's report has consequently led indirectly, to results of the most important and far-reaching kind.

9 Finally Dr Gaskell's and Shore's practical conclusion, that "chloroform can be given with perfect safety," is in itself the most valuable of all proofs of the enormous influence for good that has resulted from the Hyderabad Commission. It is not too much to assert that such an opinion would never have been arrived at, much less published prior to the work of that Commission.

10 I would venture to suggest that the cordial and hearty thanks of His Highness the Nizam's Government be tendered to Professor Gaskell and Dr Shore together with the intimation that should they ever feel inclined to repeat their experiments on a more extensive scale, in order to bring them into line with those carried out in Hyderabad, Government will provide the necessary funds to enable them to do so.

I have the honour to be Sir your most obedient servant,
(Signed)

E. LAWRIE, Surgeon Lieutenant-Colonel, Residency Surgeon.

(True copy)

E. LAWRIE, Surgeon Lieutenant-Colonel.

Together with the above copy of the correspondence on Drs Gaskell and Shore's report, we have received the following memorandum from Surgeon Lieutenant-Colonel Lawrie addressed to us with a request for publication in THE LANCET—

1. If Dr Gaskell's and Dr Shore's experiments could be proved to be decisive, the contention and findings of the Hyderabad Commission would necessarily fall to the ground. On this possibility we join issue. We have performed numerous cross-circulation experiments since September, 1892, and it is so certain as to be beyond dispute that when the cross-circulation is successfully established and maintained, and chloroform is sent to the brain alone, the same sequence of events is observed as when it is inhaled in the ordinary way. On the other hand, when chloroform is sent to the heart alone, and has no access to the brain, it produces no effect whatever, nor can any effect be produced on the system by chloroform except through the brain. So completely is the action of the anæsthetic limited to the brain that, after a little experience had been gained in our experiments, the efficiency of the cross-circulation could be estimated with precision by its effect on the fed animal, but we were not content with this, and in all the later experiments results were verified by post-mortem injection and examination of the bloodvessels of the animals' brains.

2. The self-evident fallacy in Drs Gaskell and Shore's experiments is that the cross-circulation was not maintained, or, in other words, the "fed's" brain circulation was incompletely blocked, and blood was conveyed to it from its own system through collateral channels. Conclusive evidence on this point is furnished in Figures 9 and 10 p 169 of the *British Medical Journal* of Jan 28th, 1893. These are tracings of two cross-circulation experiments on two pairs of rabbits in which chloroform was administered to the "fed." The drug was to have no access to the "fed's" brain, which was to be supplied with unchloroformed blood from the "feeder," and yet in both experiments the "fed's" brain died of chloroform

poisoning. The chloroform must have been conveyed to the nerve centres by the collateral circulation, as failure of the "fed's" heart could not have killed its brain if the cross-circulation had been effective and its supply of pure blood from the "feeder" had been maintained throughout the experiment.

3 The danger of the belief that chloroform directly affects the heart lies in the risk of the perpetuation, no matter in what form, of the teaching of the Glasgow Committee of 1879, which established the pulse as a factor in chloroform administration on a pseudo-scientific basis.

4 In 1879 the Glasgow Committee of the British Medical Association published manometer tracings exhibiting sudden falls of the blood pressure under chloroform, which were accepted and acted upon by the majority of the profession as signs of impending death from direct stoppage of the heart. In 1892 Drs Gaskell and Shore put forward manometer tracings exhibiting gradual falls of the blood pressure in experiments with chloroform, which they are firmly, though I hope not unalterably, convinced indicate danger owing to direct weakening of the heart.

5 If Dr Gaskell's and Dr Shore's dictum were true that "the weakening effect of chloroform on the heart is the chief if not the only cause of the fall of blood pressure," it would obviously be necessary to watch the pulse during chloroform administration, and even with this precaution it could not be administered with invariable safety. The principles upon which, following Syme, I and hundreds of his pupils all over the world have given chloroform with success are that it is useless and unsafe to take the pulse as a guide and that uniform safety can only be assured by entirely disregarding the heart as a factor in the inhalation of the anæsthetic. The Hyderabad Commission has verified Syme's teaching and has proved that neither the sudden falls of the blood pressure of the Glasgow Committee nor the gradual falls on which Dr Gaskell and Dr Shore lay stress are in themselves dangerous or afford any reason for taking the pulse as a guide, and our cross-circulation experiments have completed the Commission's work by demonstrating that chloroform has no direct action on the heart. Falls of the blood pressure under chloroform are accordingly of no consequence unless the heart is weakened by interference with the breathing and is thus made to take part in their production. It is abundantly clear therefore that the pulse can only afford useful indications to the chloroformist when chloroform is administered in such a manner as to interfere with the respiration.

6 It would be interesting to differentiate between the falls of the blood pressure due to the various causes which are at work in over dosing with chloroform, so as to be able to state exactly where the harmless fall caused by vaso-motor narcosis ends and the dangerous fall due to weakening of the heart from failure of the respiration begins. In the laboratory this is impracticable in the present state of our knowledge and appliances, whilst in the operating theatre it is a point of no practical importance whatsoever. Clinically the heart is never affected under chloroform at all if the breathing is natural and regular throughout the administration.

E. LAWRIE, Surgeon Lt Colonel, Residency Surgeon.

CHOLERA IN FRANCE

(FROM OUR SPECIAL CORRESPONDENT)

A VISIT TO MARSEILLES

Endemic Cholera—The High Death rate—Contaminated Cisterns—Draining into the Gutter

THE general insanitary condition of Marseilles is not only such as to account for the occasional outbreak of cholera and other epidemic diseases but there would be nothing to be surprised at if cholera were to become endemic. Indeed, it is an open question whether cholera is not actually endemic at Marseilles. There were the two great epidemics of 1884 and 1885. But in 1889 several medical men who were about to attend the International Congress of Hygiene held at Paris during the Universal Exhibition were detained at Marseilles because they thought an epidemic of cholera was about to break out. There is an especially unhealthy house where the first cases of cholera occurred in 1885, and in 1889 there were three cases of cholera in this one house just at the time that the

ing Scilly lies within the south west district of the Meteorological Office and it is the one "most frequently swept by gales, the average being twenty two per annum." Gales from the south west preponderate very considerably over those from other quarters, and then, of course, the weather is very mild. The worst wind in these islands is from the north west and it has a shrivelling up effect if it blows strongly. There has not, however, been such a gale within my experience and they occur very infrequently. The east wind is cold, of course, but still it is tempered to some small extent by the miles of water which it has to pass over before reaching the islands. In sheltered places where one is protected from the wind the sensation of warmth is so great that one can lounge about and even sit down for a time without any sense of coldness or discomfort. Indeed, so pleasant and mild is the atmosphere when in shelter that one can hardly credit the wind to be blowing from the east. Regarding shelter from any wind, however, there is not very much to be said. The natural configuration of the islands is such that shelter is not easily obtained except in very small patches. There are no high hills and no belts of timber to afford protection from the wind from whatever quarter it may blow. On the whole, then, this is the weakest point in the claim of the islands to be considered a "winter health resort" if absence of strong winds or shelter from the same is to be considered absolutely necessary.

Fortunately, however, for seafarers generally and the inhabitants of these islands in particular, it is not always, or even commonly, blowing a gale of wind, and, besides, very often gales occur during the night when most people are safely in bed, where invalids and health seekers would most certainly be, and therefore not exposed. Individually, I am not quite so sure of the supposed great advantage of a still atmosphere for invalids and health seekers. I am quite prepared to contend that fresh breezes and even strong winds occasionally, are decidedly beneficial as they are more exhilarating and invigorating than a calm, still atmosphere.

5 *A light and porous soil easily drained and warmed*—In this respect I consider that the islands are almost perfect, the rocks are granite, and the soil is light, loose, sandy and porous, the natural drainage being excellent. The ground is undulating and on the slopes the rain disappears at once, but even on the low lying and level places the water is found to lie for a very short time. After the heaviest rainfall, in a comparatively short space of time the most delicate need have little hesitation in walking abroad. The gravels and the sands are generally recognised to be the driest and the healthiest, being the most porous soil. That the soil is also warm has already been demonstrated when reference was made to the marvellous vegetation of the islands.

It is in these islands that the narcissus culture is so extensively carried on, and whence the large cities derive so large a part of their winter and spring supply of flowers. Lilies blooming in the open air in January, even at Christmas time occasionally, are not found in many places in England, if, indeed, in any, nor for that matter on the Continent either. I think it is clearly established that the Scilly Isles enjoy a remarkably mild and equable climate not to be excelled, if at all approached, by any other place in England, that the rainfall is extremely moderate and occurring under most favourable conditions, that the air is pure and uncontaminated by deleterious matter, and that the soil is of the kind considered healthiest, being dry and easily drained. The want of exact information regarding the amount of sun shine is unfortunate and can be remedied only by time.

Then as regards the prevalence of fresh breezes and general want of shelter in the islands, such patients as would be injuriously affected thereby would avoid the place as being unsuitable to them. The natural advantages of the place are very great and the climate is peculiarly suitable for a certain class of invalids and delicate people, and more especially for those with a tendency to phthisis or suffering from the disease in its early stages. Strumous cases also, and nearly all 'chronic respiratory complaints are almost certain to be much benefited. The islands are within less than eighteen hours' journey of London, consequently very near to and within easy reach of every English home. The steamboat communication is fairly good, but might easily be much improved. Unfortunately there is at present a lack of good accommodation for visitors, though lately a few good houses have been erected. The houses are for the most part small and badly situated, no one, in building, having apparently had any idea of obtaining a view. It re-

quires only a little enterprise on the part of the inhabitants to make very great improvements and augment the favours which nature has already lavished so abundantly on these islands. A place where snow seldom falls, or if so very scantily and soon disappearing, and where frost and ice are hardly known, may, I think, with some justice fairly lay claim to being considered a "winter health resort" to which the delicate and the invalid may repair with every hope of being benefited, and in many cases even of being restored to health. At some future date I may enter more into detail on some points already touched upon and give some account of cases which have been benefited by a residence here. The vital statistics of the islands, too, are not without interest for in a community numbering less than 1800 souls the number of people who have attained to a great age is, I believe, much above the average.

THE HYDERABAD CHLOROFORM COMMISSION

To the Editors of THE LANCET

SIRS,—I beg you will do me the favour of publishing the enclosed correspondence and memo on the report of Drs. Gaskell and Shore.

THE LANCET of Feb 18th, 1893, which arrived here to-day, contains a letter by Dr Gaskell and Dr Shore regarding the publication of their report. From it I gather that there has been a misunderstanding on the subject, which I much regret. The report was forwarded to us without any intimation that it was a draft, and, as from its nature there was no reason to believe it to be such, we never regarded it in that light. Accordingly, as it was a piece of private work for His Highness the Nizam's Government, we were under the impression that it was ours to do what we liked with. We originally intended to publish it in the medical journals, with a detailed reply, and we should in that case, in fairness to Dr Gaskell and Dr Shore, have submitted it to them, together with the report, before publication. Subsequently, however, the results of our cross circulation experiments rendered this procedure unnecessary, and the report was therefore forwarded to Government for publication in due course in the annual administration report. In the meantime Drs Gaskell and Shore have published the report themselves. In view of these facts it is somewhat extravagant of them to accuse me of an intention of suppressing their investigation. We now know the whole truth about chloroform, and we give Dr Gaskell and Dr Shore full and entire credit for the part they have taken in enabling us and the medical world to arrive at it. I am, Sirs, yours truly,

Deccan, March 7th, 1893

EDWARD LAWRIE.

Private Secretary's Office Feb 22nd, 1893.

From Faridoonji Jamsheji Esq

Private Secretary to H E the Minister,
To Surgeon Lieutenant-Colonel E. Lawrie, M.B.

Residency Surgeon, Hyderabad.

SIR—I have the honour to acknowledge the receipt of the Report of Chloroform by Dr Gaskell and Dr Shore.

2. It is evident to Sir Asam Jah as it must be to the most careful reader, that this Report is opposed to the conclusions of the Hyderabad Commission from their very foundation and is not a finishing touch to the Commission's work as it was intended to be.

3. I am directed therefore to request that you will furnish His Excellency with an explanation of this fact.

I have the honour to be Sir your most obedient servant
(Signed) FARIDDOONJI JAMSHEDJI Private Secretary

(True copy)
E. LAWRIE, Surgeon Lieutenant-Colonel.

No 11 of 1893

From Surgeon Lieutenant-Colonel E. Lawrie,
Residency Surgeon Hyderabad,

To Faridoonji Jamsheji Esq

Private Secretary to His Excellency the Minister

Dated Hyderabad Residency March 6th 1893.

SIR—I have to acknowledge your letter of Feb 22nd 1893 directing me to submit an explanation of the fact that the Report on Chloroform of Drs Gaskell and Shore is opposed to the conclusions of the Hyderabad Commission from their very foundation and is not merely the last finish to the Commission's work as it was intended to be.

2. In reply I have the honour to remind you that when I proceeded to Europe in 1890 I endeavoured to obtain with the sanction of His Highness the Nizam's Government the help of the most eminent physiologists in England to complete the work of the Hyderabad Commission.

3. Acting on the advice of Sir Joseph Lister I visited Cambridge with Dr Lauder Brunton and laid the Commission's tracings before Professors Michael Foster and Gaskell. They were struck with the fact brought out by the whole of the tracings that chloroform lowers the blood pressure and this appeared to them to indicate danger to the heart. On the other hand, Dr Gaskell explained to me, in a common

tion of the luggage of healthy passengers is equally condemned. The process of disinfection (so-called), as carried out this winter on the German side of the Russo German frontier, led to much annoyance and could by no possibility have kept out the cholera (or any other) bacillus. The report insists on the necessity of supervision on the lines of communication where large bodies of passengers are concerned, such as labourers, troops, emigrants and convicts, and also of providing them with cheap or free refreshments, with shelter and with cheap baths. With regard to the holding of fairs, pilgrimages and bazaars, the Conference decided that it is quite unnecessary to forbid them or to close places of entertainment during an epidemic of cholera. "The experience of the last epidemic," the report states, "has shown that the danger arising from the congregation of large numbers of people may be reduced to nil by carefully considered measures of precaution."

Means of disinfection.—The necessity of laying in supplies of disinfectants before the spring is pointed out. The use of crude carbolic acid, unless after a thorough analysis is condemned. The crystalline acid should be substituted for it. The methods of disinfection detailed in the Government Circular on this subject have proved satisfactory and call for no alteration or amendment. Finally, the report declares that the attempt to disinfect large packages of goods by simply disinfecting their outer surface or wrappers is of no use.

The members of the Conference were unanimous in the opinion that there are no specific means of curing cholera, and of cutting short its course. An *ex cathedra* statement approving of any one drug or line of treatment was therefore thought inadvisable. The report simply recommends a rational symptomatic treatment, caring being taken that the form of treatment is not wrongly interpreted by the peasantry. The Conference approved of the so-called "cholera medicine cases" in the hands of quacks and others living amongst the peasants as being of use or first aid treatment.

NON-POISONOUS WHITE LEAD

THE highly deleterious properties of carbonate of lead (white lead) on the health of the operatives engaged in its manufacture and of those using it for trade purposes have long been recognised. This has recently been emphasised by Mr Oliver of Newcastle in the Goulstonian Lectures of 1891. The matter has also received attention in the reports of coroners inquests on deaths from plumbism occurring amongst these persons. The recognition of this danger has led to many attempts to minimise it, as it occurs in the process of manufacture, by endeavouring to find a substitute for the poisonous carbonate which should be innocuous or is hardly worth while to record the various suggestions that have been brought forward, but the most promising is that known as 'Hannay's white lead.' The product, however, is not the carbonate of lead but the sulphate. The process of its manufacture does away with all the handling required for conversion of crude lead into carbonate before it is sent into the market. The white sulphate of lead as prepared by "Hannay's" process does not require such manipulation, whilst the product itself is so far insoluble as to be handled by painters with almost if not complete immunity. The new process is as follows. Best English ore containing about 80 per cent of lead is used, and with the exception of being melted it undergoes no preparation whatever before being sent into the furnaces. These, of which some thirty exist in the works, are ranged in a long line stretching from the shed where the galena is stored. They are solidly built, have special last arrangements to ensure the conversion of all the galena into the innocuous sulphate and by a system of flues are placed in direct communication with the condensers. The reaction taking place in the furnace may be thus represented: $Pb - 2O_2 = PbSO_4$. The lead sulphate so formed enters into the condensers where, coming into contact with a cool

ing jet of water, it is immediately precipitated in a fine white powder on the floor. The sulphate, after it leaves the condensers, is then received into settling tanks. Here a sieve catches any rough sulphate which may have been formed by adhesion to the sides of the condensers. It is then left to settle, the extraneous water being afterwards drawn off. It is next washed in acidified water to remove any impurities, and thereupon pressed. Medical men know well that when such cases of plumbism arise from the use of carbonate of lead the remedial agent employed is sulphuric acid or sulphate of magnesia, which converts the carbonate of lead into a sulphate. This non-poisonous white lead has received the commendation of Sir Henry Roscoe and Professor T. E. Thorpe, and several firms have made use of the new pigment and have expressed their sense of its value by repeating their orders. It appears to be of especial value for marine purposes, as it resists the action of salt water remarkably well. For all ordinary purposes the evidence seems to show that it replaces the poisonous carbonate of lead in every respect. When we reflect on the enormous direct mortality, to say nothing of the indirect evils, consequent on the use of carbonate of lead as a pigment, it is to be most earnestly desired that this new preparation may have an enlightened and unprejudiced trial. If the comparatively innocuous white sulphate of lead can replace entirely or in large measure the poisonous white carbonate of lead an enormous saving of life and suffering will be effected, and so far the evidence is entirely in its favour. Indeed, should it be proved that life and health can be preserved by the manufacture and use of this pigment and that it is equally applicable for trade purposes as the old white lead, Government ought at once to enforce its adoption.

At our request specimens of the galena from which this new white lead is obtained and the dry product, as well as that mixed with oil ready for use have been submitted to us for examination. Sulphate of lead formed the basis of both the white lead specimens, although traces of oxide—so small as to be quite negligible—occurred in the dry sample. Treated with weak acetic acid, for instance, it yielded a solution which, on filtering became distinctly turbid on treatment with sulphuric acid. Compared with a very well made specimen of white lead as it is used at present, the new compound is, as might be expected, not so exquisitely fine, although it was certainly much finer, when viewed under the microscope, than we expected to find. As the covering power of a pigment depends on the degree of fineness of the material, it may be supposed that the new preparation is in this respect therefore somewhat inferior to the finest white carbonate of lead, but doubtless it is equal and even superior to many kinds of white lead frequently met with in shops. The covering properties of white lead are dependent in fact upon its condition of aggregation, because a loose crystalline white lead does not cover nearly as well as the perfectly amorphous lead prepared by the old Dutch method. The covering power increases moreover with the amount of hydrated lead oxide. In attempting to find a satisfactory substitute for the old white lead the problem is to find a substance of good weight and bulk and one that is perfectly amorphous and non-crystalline. Sulphate of lead prepared by ordinary methods though beautifully white, is crystalline, and it is this property that militates against its use as a pigment. This difficulty has to some extent been overcome by the method which is adopted by the above company. We have no evidence that it is equal in pigmentary power to the white lead at present in use. Only long experience in its application on a large scale can decide this point, mere experiments in the laboratory are of no value. In the interests of the health of workmen and workwomen who are exposed to the evils arising from the inhalation of lead dust and fumes in the factories where white carbonate of lead is now prepared we should be glad to learn that such experience decides in favour of the new innocuous compound. The new product is cheaper than ordinary white lead, and it resists the destructive action of sulphuretted hydrogen and sea water completely. The deterioration of ordinary lead paint through the presence of sulphur compounds in the air is a matter of common observation in large manufacturing towns, and in the neighbourhood of gasworks the damage from this cause is often serious. In such cases the new material could be substituted with considerable advantage. If this new lead paint were used more freely than ordinary paint for the purpose of coating surfaces doubtless the slight inferiority of its pigmentary power would be counterbalanced.

* The process as witnessed at Eydtkuhnen was carried out by women. The top and sides of each package were wiped over with a damp flannel that had been dipped into some hot fluid. The fluid was laced with dirt. With the same flannel the upper surface of each article contained in the boxes was washed over. Irrespective of its nature woollen clothes, boots and white shirts received the same dirty treatment. The inner surfaces of folded articles were not touched. Linen that had been worn was detained for disinfection by steam.

THE LANCET, Nov. 19th, 1892, p. 1155.

Congress in question met at Paris, and it was thought that this was the beginning of an epidemic. Dr Murreur described to me what seemed to be a true case of cholera which occurred fifteen years ago. Now there has been a small epidemic last October, and another last February. But between these two outbreaks there were isolated cases which there is good ground to suspect were genuine cases of cholera. The question arises whether there are not every year a few deaths from that disease at Marseilles, though the word "cholera" is only employed when instead of a few cases there are a considerable number. A local incident, such as exceptional dryness and the consequent lowering of the underground water level or the more frequent drinking of the cooler well water instead of the less agreeable and warmer town water—or again, as in last February, the falling off through the bakers' strike of the bread supply—may cause the endemic tendency to cholera to develop into a regular epidemic. At any rate, many medical men fail to recognise any well defined difference between the annual cases of what is sometimes called "cholera nostras" and such cases of cholera as occur during an epidemic. The difference seems to rest solely in the number and not in the nature of the cases.

However this may be, there is in Marseilles a semi tropical climate in addition to the worst sanitary conditions, consequently there is not only a special susceptibility to cholera, but a very high death rate, and at times as many as a third of these deaths are due to transmissible diseases. Thus, from 1882 to 1886 there were 60,115 deaths, of which 20,375 might have been prevented. Dr Proust in 1889 estimated the average death rate of Marseilles for the previous twenty years at 32 per 1000 of the population. In some quarters the death rate is much higher and equals, in the Gare du Sud district, 35.0, the Bassin de Carénage, 36.7, the Hôpital Militaire, 37.4, the Arc de-Triomphe, 38.0, the Hôtel Dieu, 38.9, and the Hôtel de Ville, 47.4 per 1000 of the population. There is nothing surprising in this high death rate. Marseilles has an abundant water supply, but the water is polluted before it reaches the town. This, however, might be prevented, and I will leave the general and very important question of the water supply aside for the moment. Dealing at present only with what occurs within the walls of the town, I would protest that even though the water be pure when it reaches the consumer it is very frequently befouled within his house. The water is very generally delivered in cisterns placed near the roofs of the houses. In this position the water becomes still warmer, and, in the hot summer months, this increases the temptation to drink water from wells which, though often polluted, is always cool and fresh. It may be urged that this cannot be helped, what, however, could be prevented is the defective construction of the cisterns. The water usually supplied, that of the aqueduct from the Durance River, is often very muddy, the mud deposits in the cisterns, and the pipes which supply the house have their openings two or three inches above the bottoms of the cisterns. Consequently the deposit is not carried down into the pipes with the water. Unless the cisterns are constantly cleaned out it is better for the mud to be carried down the pipes. Firstly, the thickness of the water would render the use of filters more general, secondly, the mud mixed with the water would be fresh mud. This would not be so dangerous as water which has come off the surface of the stale mud which has been accumulating in the cistern for weeks, months and perhaps years. The mud may be comparatively uninjurious at the moment of its arrival in the cistern, but, in the course of time, it may be polluted, the organic matter it contains will ferment and all manner of evil consequences will result. This is not all if the outlet pipe at the bottom of the cistern is so disposed as to convert the cistern into a mud settling tank, an overflow pipe at the top communicates directly with the house soil pipe and often helps to ventilate not only the household drains but also the public sewers.

There are various methods of draining houses at Marseilles. In the better quarters and for the more recently built houses there are what are called *puisards*—a term badly applied, for, as a rule, a *puisard* means a porous cesspool. In this instance a *puisard* means a small cesspit built under the causeway of the street and in front of the house. This pit may be about three feet square and five to six feet deep. On one side the soil pipe from the house enters it at about two feet above the bottom. On the opposite side a drain pipe communicates with the public sewer, which is a few feet beyond in the centre of the street. The entrance to this drain is protected by an iron grating, so that only liquids and small particles can per-

colate and reach the sewer beyond. The *puisard* therefore retains under the street pavement the solid deposits from each house. A circular iron lid, similar to those seen over coal cellars in London, gives access to this cesspit. Householders pay twenty four francs a year for having the heavy deposits at the bottom of these cesspits cleared away, but this operation is rarely accomplished more than twice a year. Then it often happens that instead of lading out the filth the cesspits contain the men content themselves with throwing water into the cesspits, violently stirring the contents at the same time. The heavy deposits thus diluted are able to flow out into the sewer. Of course, this operation occasions a horrible odour and befouls the sewer, thus defeating the object of the cesspits. It must also be noted that these cesspits do not serve the purpose of dip traps, there is no dip-stone in the centre. The overflow pipe to the sewer faces the soil pipe from the house, the sewer air enters the soil pipe after passing over the foul contents of the cesspit, in the soil pipe the sewer air reaches the overflow pipe from the cistern. Thus the gases, with all the microbes they may contain, reach the surface of the drinking water after travelling from the sewer, from the cesspit, and up the house soil pipe. The purest water might in this manner be befouled, yet this is the method of drainage employed in the best houses and districts of Marseilles. There are from four to five thousand *puisards* under the causeways of the best streets of Marseilles. Some five to six thousand other houses have what are called *tinettes filtrantes*. Under the staircase, in a niche in the wall, or in any other convenient corner, there is a metallic receptacle, the lid of which fixes into the bottom of the soil pipe. At the lower portion of this pit there is a small opening which allows the liquids to flow along a small drain that passes down the entrance passage or hall of the house and empties itself into the street gutter. This is not a pipe drain, but more often like a small gutter, and is sometimes not even covered. In other houses there are what are called dry *tinettes*. Such houses have no closets, but empty their soil into these metallic receptacles, which are generally placed in a small recess under the stairs. Other houses have cesspools, and some few have porous ones that allow all the liquids to escape into the subsoil. These latter are not very numerous. But, worse than all, there are close upon 14,000 houses that have no closets whatever. The inhabitants are forced to make use of public latrines, though the large majority throw every thing into the street gutter. It may be said that, in the main, Marseilles drains into the gutter.

(To be continued.)

THE LATE CONFERENCE ON CHOLERA AT ST PETERSBURG AND INTERIM REPORT

PENDING the publication of the full report of the proceedings of this Conference, the Medical Department of the Ministry of the Interior has issued a statement of the main conclusions at which it has arrived.

Dealing with the measures for improving the health of inhabited localities, the report states that the chief sources of pollution of the soil in Russia are the entire absence or bad construction of *retirades*, and the leakage from cesspools. As the cost of constructing water tight cesspools is great, the Conference recommends the cheaper method of removal of sewage in barrels or in well made and thoroughly tarred wooden receptacles.

The sources of pollution of the water supply are also enumerated. In villages that do not possess wells the construction of "Abyssinian" or other deep wells is advocated. With the object of making a thorough examination of the water supplied to a district possible, the opening of laboratories in all large towns is recommended.

Precautionary measures against the introduction of the epidemic—As has been already stated the principle of quarantine was condemned in no measured terms by the Conference. The present report condemns it as having no scientific basis. For quarantine there should be substituted isolation and disinfection. Further, the inspection of passengers in trains is declared to be useless and irksome, and the compulsory disinfection

ther trial to apply the principle to all impure wells in the tract. We must confess we are not much taken with the amendment, as just the same objections would apply to it as ordinary domestic filters—i.e., the difficulty of ensuring quiet and efficient cleansing.

Loughborough Rural Sanitary District—The total abolition of middens and the replacement of all brick culverters in this district by properly glazed pipes are the two chief recommendations contained in the report. A severe epidemic of measles occurred in the borough during the winter, and the schools were closed in consequence. Mr. Moran made a special report to the authority upon the outbreak, and he endeavours to show, amongst other things, that epidemics of measles have been much more extensive and fatal since the Compulsory Education Act, that school closure reduces the rapidity of the spread of epidemics of measles, although it does not absolutely prevent them. The general death rate of the district was 18·2 per 1000, the infant mortality, decidedly high, amounting to as much as 6 per 1000 registered births.

VITAL STATISTICS

HEALTH OF ENGLISH TOWNS.

In thirty three of the largest English towns 6600 births and 36 deaths were registered during the week ending March 25th. The annual rate of mortality in these towns, which had been 16·6 and 19·9 per 1000 in the preceding two weeks, further rose last week to 20·9. In London the rate was 20·7 per 1000, whilst it averaged 21·0 in the thirty two provincial towns. The lowest rates in these towns were 11·8 in Derby, 15·1 in Warrington, 15·8 in Croydon and in Nottingham, 15·9 in Brighton and 16·1 in Swansea, the highest rates were 25·0 in Leeds, 27·7 in Manchester, 26·7 in Bolton, 26·9 in Salford and 27·4 in Liverpool. The 4136 deaths included 423 which were referred to the principal zymotic diseases, against 350 and 406 in the preceding two weeks, of these, 121 resulted from whooping cough, 102 from measles, 70 from diphtheria, 47 from diarrhoea, 41 from scarlet fever, 28 from "fever" (principally typhoid) and 14 from small pox. No fatal case of any of these diseases occurred last week in Wolverhampton, in the other towns they caused the lowest death rates in Warrington, Brighton and Swansea, and the highest rates in Portsmouth, Leeds, Cardiff, Preston and Bolton. The greatest mortality from measles occurred in Cardiff, Gateshead, Hull, Newcastle-upon Tyne, Portsmouth, Preston, Leeds and Bolton, from scarlet fever in Huddersfield, from whooping cough in Birkenhead, Birmingham and Worcester, and from "fever" in Bolton. The 70 deaths from diphtheria included 49 in London, 7 in Cardiff, 3 in West Ham and 2 in Croydon. Six fatal cases of small pox were registered in London, 2 in Manchester, 1 in Halifax and 1 each in West Ham, Oldham, Leeds and Hull, but not one in any other of the thirty three towns, 23 cases of this disease were under treatment in the Metropolitan Asylum Hospitals and 12 in the Highgate Small pox Hospital on Saturday last. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 1971 against 210, 2147 and 1965 on the preceding three Saturdays, 25 new cases were admitted during the week, against 195 and 180 in the previous two weeks. The deaths referred to diseases of the respiratory organs in London, which had declined from 427 to 338 in the preceding four weeks, rose again to 393 last week, but were 112 below the corrected average. The causes of 87 or 21 per cent., of the deaths in the thirty three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Bolton, Sunderland, Newcastle-upon Tyne and in six other smaller towns, the largest proportions of uncertified deaths were registered in West Ham, Blackburn, Preston and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had declined from 23·2 to 21·2 per 1000 in the preceding three weeks, rose again to 23·4 during the week ending March 25th and exceeded by 2·5 per 1000 the mean rate during the same period in the thirty three large English towns. The rates in the eight Scotch towns ranged from 10·8 in Aberdeen and 17·6 in Leith to 25·7 in Greenock and 27·3 in Glasgow. The 659 deaths in these

towns included 51 which were referred to measles, 16 to whooping-cough, 13 to diarrhoea, 10 to scarlet fever, 8 to diphtheria, 4 to "fever" and 2 to small pox. In all, 104 deaths resulted from the principal zymotic diseases, against 95 and 71 in the preceding two weeks. These 104 deaths were equal to an annual rate of 3·7 per 1000, which exceeded by 1·6 the mean rate last week from the same diseases in the thirty three large English towns. The fatal cases of measles, which had declined from 53 to 45 in the preceding three weeks, rose again to 51 last week, of which 32 occurred in Glasgow, 8 in Dundee, 7 in Edinburgh and 4 in Paisley. The deaths referred to whooping cough exceeded by 10 the number in the previous week and included 14 in Glasgow. The fatal cases of scarlet fever, which had been 6 in each of the preceding two weeks, rose to 10 last week, of which 6 occurred in Glasgow and 3 in Edinburgh. The deaths from diphtheria, which had declined in the previous four weeks from 10 to 6, rose again last week to 8 and included 3 in Edinburgh and 2 in Glasgow. The 2 fatal cases of small pox were recorded in Glasgow. The deaths referred to diseases of the respiratory organs in these towns which had declined from 171 to 136 in the preceding three weeks, rose again to 151 last week, but were 30 below the number in the corresponding week of last year. The causes of 51, or nearly 8 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN

The death rate in Dublin, which had been 25·2 and 26·0 per 1000 in the preceding two weeks, further rose to 26·7 during the week ending March 25th. During the past twelve weeks of the current quarter the death rate in the city has averaged 28·2 per 1000, the rate for the same period being 22·1 in London and 21·0 in Edinburgh. The 179 deaths in Dublin showed an increase of 5 upon the number in the preceding week, and included 8 which were referred to "fever," 3 to whooping cough, 1 to measles, and not one either to small pox, scarlet fever, diphtheria, or diarrhoea. In all, 12 deaths resulted from these principal zymotic diseases, equal to an annual rate of 1·8 per 1000, the zymotic death rate during the same period being 2·3 in London and 3·1 in Edinburgh. The deaths referred to different forms of "fever" which had been 6 and 3 in the preceding two weeks, rose to 8 last week. The fatal cases of whooping cough which had been 1 and 4 in the preceding two weeks declined again to 3 last week. The 179 deaths registered in Dublin last week included 33 of infants under one year of age and 40 of persons aged upwards of sixty years, the deaths both of infants and of elderly persons showed a further increase upon those recorded in recent weeks. Five inquest cases and 7 deaths from violence were registered, and 71, or more than a third, of the deaths occurred in public institutions. The causes of 8, or more than 4 per cent., of the deaths in the city last week were not certified.

THE SERVICES

MOVEMENTS IN THE MEDICAL STAFF

SURGEON CAPTAIN J. F. BATESON, Army Medical Staff lately attached to the Coldstream Guards has left for Cairo to take up his appointment in the Egyptian Army.

INDIA AND THE INDIAN MEDICAL SERVICES.

Surgeon Lieutenant Colonel Quill, Army Medical Staff, has been appointed to Medical Charge, Station Hospital, Kirkee, vice **Surgeon Major Bourke**. **Surgeon Captain Wade Brown**, Army Medical Staff, just arrived from England on fresh tour has been posted to general duty Bombay District. **Surgeon Major Barnes**, Army Medical Staff, has been transferred from general duty, Bombay District, to general duty Poona District. **Surgeon Captain Nelis**, Army Medical Staff, on arrival from England on fresh tour has been posted to general duty Poona District. **Surgeon Captains Henderson and Healy**, Army Medical Staff, on arrival from England on fresh tour have been posted to general duty Bombay District. The services of **Surgeon Captain D. W. Scotland**, Civil Surgeon, Betul, are placed at the disposal of the Government of India Home Department. **Surgeon Major G. W. Robinson**, Army Medical Service doing duty Belgaum and Bangalore Districts is posted to the Medical Charge of the Station Hospital, Calicut. **Surgeon Major S. Hassan**, 3rd Bengal Ir-

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT

REPORTS OF MEDICAL OFFICERS OF HEALTH

Barnsley Rural Sanitary District—Two limited outbreaks of small pox occurred in the district in 1892. The first arose from a case which was under treatment for a week before its real nature was recognised and notified. From this case ten other cases arose. The second outbreak had its origin, under somewhat peculiar circumstances, from a case which was isolated in the hospital. The patient, a male adult, became suddenly delirious, overpowered the nurse who was temporarily left in charge of him, and effected his escape. He was immediately pursued and captured before entering any dwelling, but out of a small crowd which collected around him in the street no less than six persons contracted the disease. It would have been a point of some interest had the report stated whether these individuals had actually come into contact with the patient or not. These six infected five others, and one of these latter yet another four. Of the total number of cases which occurred during the year only one, some sixteen years previously, had been revaccinated. Dr Sadler, in his report, tells us that the nature of this case would have been doubtful had not others of a more pronounced and serious nature arisen from it. One of the patients who contracted the disease was well pitted by a former attack. The general death rate of this district during the year was 20·28 per 1000, and the infantile mortality 180 per 1000 registered births.

Godstone Rural Sanitary District—During the year 1892 the general death rate of the district amounted to only 12·9 per 1000, the rates in the different localities varying from 9·9 to 22·7. The infantile mortality was 118 per 1000 births, the zymotic death rate is not given. There was an extensive outbreak of diphtheria at the Church Missionary Home, Limpsfield. It appears that in the autumn of 1891 a few cases occurred, and the children were in consequence dismissed for the Christmas holidays. On their return, Jan 15th, several children are stated to have had some slight throat affection which required treatment, but it was not considered necessary to seclude them. Other cases of a similar nature continued to crop up, until, on March 18th, one was declared to be diphtheria. From this case it seems no less than twenty-two cases were infected. The report before us does not state whether any of those children who suffered from sore throats on the reassembling of the school were the same as those attacked with diphtheria prior to the Christmas holidays, and this point, in face of the view held by Dr Astley Gresswell on the recrudescence of diphtheria, becomes of importance. Dr Oldman very rightly insists upon the desirability of the frequent and systematic examination of the throats of school children, with a view to early treatment and isolation. It appears however, that the cases suffering from sore throat which occurred upon the reassembling of the school in question were examined and treated, but not isolated. In view of the admitted difficulty of diagnosing diphtheria it becomes an important question whether any form of sore throat occurring amongst school children should not at once be isolated. Dr Oldman's report gives a very complete introduction and a detailed account of each locality, but the matters treated of are, for the most part, of purely local interest.

West Hartlepool Urban Sanitary District—Dr Gourley again urges upon this authority the great importance of their providing a properly equipped hospital for infectious diseases, and he also draws attention to the need for some arrangements by which people whose houses are being disinfected may receive temporary shelter. The report states that thirty-two cases were removed during the year to the Port Sanitary Hospital, but that, owing to the deep-rooted objection there is to the place, great pressure had in several instances to be exerted. A limited outbreak of small pox apparently arose from a modified case of the disease, which was at first regarded as varicella. A destructor is much needed for the district, as also is an abattoir. During the prevalence of cholera in Hamburg a careful watch was kept by the inspector on all fruit arriving from abroad. West Hartlepool is, as Dr Gourley states, especially liable to have cholera introduced into it, owing to the transit of rags, and also of a number of emigrants who disembark here en route for America. It is, however, not altogether reassuring

to read that the survey of the sewers, which is being carried out by the borough engineer, continues to reveal very grave sanitary defects. These defects are being remedied as far as practicable with the funds voted each year for that purpose. It is regrettable that, in view of the special danger to which the borough is exposed, more money is not forthcoming.

Aston Manor Urban Sanitary District—The sanitary authority of this district presents an interesting example of the thoughtless manner in which some authorities embrace the adoptive Acts. Aston Manor has adopted the Infectious Diseases Prevention Act, and yet has provided no mortuary for the reception of bodies dead of infectious disease. Notification has worked successfully through the year, and isolation of the first case in a household has rarely failed to limit the outbreak to that case. Under the head of diphtheria we are told there have been eighty-three cases notified and two deaths. This is certainly a remarkably low mortality, and we should have been glad of further information as regards the age distribution in these cases. There has been a very considerable falling off in the number of scarlet fever admissions into the fever hospital during this year, 23 per cent only of the notified cases being admitted, as against 37 per cent in the year previously. Mr May is inclined to attribute this falling off to the mildness of the disease which prevailed last year and the unwillingness of parents under these circumstances to part with their children. About 150 of the scarlet fever cases which occurred in this district were considered by Mr May to be due to the consumption of infected milk. The zymotic death rate of the district during the year was 2·6 and the general death rate 16·4 per 1000. Infantile mortality was 152 per 1000 registered births. The sanitary state and requirements of Aston Manor are fully treated of in the report.

Plympton St Mary Rural Sanitary District—Dr Willoughby, in presenting his first annual report to his authority, gives a most interesting account of an outbreak of enteric fever, which might have, in all probability, been completely prevented, had the Notification Act been in force in the district. We give the account in the words of the report—"At Plymouth an epidemic of typhoid fever broke out, and the origin of the epidemic was investigated by the Health Officer. It was found that the patients were receiving their milk supply and other dairy produce from a farm in the district of the Plympton Sanitary Authority—but on inquiry at this farm the existence of any illness of the sort was denied. It was however ascertained that there were two cases of typhoid fever at this farm, and had been for some weeks, and one case was at the farm at the time of the denial. The result was that seventeen cases of typhoid fever occurred at Plympton, including one fatal case. On the farm being closed as a dairy farm no further cases occurred." Although the report does not give an exact account of the manner in which infection was introduced into the milk or water supply, it seems there was no reasonable doubt as to the milk being the carrier of the infection. Further on in the report we read that "in the autumn of the year a motion for the adoption of the Infectious Diseases Notification Act was again rejected by a small majority." Can there be a much stronger argument than the above for the Act in question being made compulsory?

St Neot's Rural Sanitary District—Mr Wright, in a general introduction to his annual report for this and other districts, refers to the deleterious effects of the School Board regulations upon the health of young children in rural districts. He draws attention to the manner in which parents in order to avoid the fines for non attendance, send their children long distances to school in wet and stormy weather, one of the results being that they have to sit for several hours in wet clothing. To discuss this point would open up a big question, but it is surely one of the duties of school teachers to pay such attention to the general condition of pupils under their care as to see that no preventable risk is run by their sitting in wet clothing &c. However, we are far from denying that there are not, from a public health point of view at least, many very serious drawbacks connected with compulsory education. Energetic steps are being taken in this district to prevent the pollution of the River Kim. The death rate during the year has been a high one for a rural district—namely, 19·54 per 1000. Twenty-four deaths were registered as due to influenza. Mr Wright is trying an experiment in one of the villages of this district by forcing water from a well through a specially adapted filter fitted to the pump. He maintains that, so far, the experiment has been highly successful, and he hopes after

expressing the opinion that it is possible some substance may have been discovered capable of withstanding projectiles of the highest penetrating power, he points out that no commission has yet reported on it, and that the tests stated to have been applied cannot be accepted as conclusive. He adds also that even in case of its bullet-proof properties becoming established there are numerous hindrances against its practical application in warfare. Professor Billroth shrewdly remarks that he should have considered the experiments reported as more satisfactory had Herr Dowe worn the jacket and allowed himself to be made the target. Considering the matter from the point of modern surgery, he points out that half the wounds received in battle are in the head and upper and lower limbs. It seems to us that the weight and flexibility of this bullet-proof material are most important elements. If it is of the nature of an inflexible, heavy cuirass which is only capable of being applied to some limited part of the body it will prove of very little actual use in warfare. It would indeed be strange if a reduction in the army medical establishments of Europe were brought about by a mechanical invention causing a great decrease in the number of the wounded required to be attended to. Moreover, if the bullet-proof property of Herr Dowe's invention turns out to be a fact its application to naval vessels as a substitute for armour plating is pretty certain to be tried.

Correspondence.

"Audi alteram partem."

"VIXERE PORTES ANTE AGAMEMNONA"

To the Editors of THE LANCET

SIRS.—It must have occurred to the hearers and readers of the Croonian Lecture to ask how it is that Englishmen have to learn about Francis Glisson from Professor Virchow. One meets with Glisson's name in German and French literature frequently. Is it not time something was done by our corporations or universities to help Englishmen to get some knowledge of medical history? Every year there is a Hunterian and a Harveian Oration. Brilliant as was the last Hunterian Oration, I think it would have been more profitable and more fitting to have heard Mr Bryant, practical surgeon and member of the staff of Guy's Hospital, on the life and works of Astley Cooper. Therefore I would suggest that in future Harveian and Hunterian orators should be allowed to take for their theme the work of any bygone British physician or surgeon worthy of being so noticed.

In the literature of the Continent, where medical history is officially recognised and privately respected, one sees the fame of Harvey and Hunter treated with something like a sense of proportion, and, illustrious as is that fame, it does not throw the reputation of all others of our great medical countrymen into the shade. In the glorious names of Sydenham, of Willis of Heberden, of Pott, of the Bells of Hall, of Blundell, of Syme and of Williams in the name of the famous Dublin School of Surgery, and, once more, in the noble names of Francis Glisson and Astley Cooper I would invite your attention and that of your readers to this question.

I am, Sirs, yours obediently,

London, March, 1893.

C B KEETLEY

THE INFERIOR LARYNGEAL NERVE A REPLY

To the Editors of THE LANCET

SIRS.—In THE LANCET of March 11th Dr W Ramsay Smith has published an interesting criticism of my late father's (Dr Herbert Davies') paper "On the Relationship between the Phrenic and Recurrent Laryngeal Nerves, with an Explanation of the Circuitous Course of the Latter." Dr Smith urges three objections, and as two of them only concern my father's theory I propose to answer them and to endeavour to show that they are of little real value. Firstly he says "The rima glottidis does not appreciably change in size and shape in normal breathing and the recurrent laryngeals are not necessary to ordinary breathing. Respiration can go on after section of both recurrent laryngeals the rima glottidis having the patency it usually acquires after death." Now, although in man there is apparently during

quiet breathing no appreciable change in the width of the glottis, yet there exists in animals an undoubted rhythmical alternation in quiet respiration. It must be also borne in mind that the inferior laryngeals contain really two sets of motor fibres one set, which innervate the muscles, which are concerned in phonation, and which therefore act only during expiration, when the phrenic nerve is inactive and the diaphragm relaxed, and the other set, which dilate the glottis and act, therefore, during inspiration, when the phrenic nerve is acting and the diaphragm consequently contracting. There therefore evidently is a combined action between the dilator muscles of the glottis and the diaphragm. Again, it is stated in vol. iv of Foster's Text-book of Physiology that "when in a living animal both recurrent laryngeals are divided the glottis becomes narrowed, assuming what may be considered its natural dimension—namely, that proper to it after death, when muscular contractions have ceased. Owing to the narrowing the entrance and exit of air into and out of the larynx are less easy, and a certain amount of dyspnoea, especially obvious if the breathing be hurried may result, but the extent to which it occurs differs in different animals and indeed, in different individuals." This dyspnoea is easily understood when one considers that there is a distinct difference of the patency of the rima glottidis as shown by careful laryngoscopic examination during life and after death, the former being 14 mm. and the latter 5 mm. Experiments on animals have proved that after division of the recurrent laryngeals the vocal cords are drawn upwards and downwards during inspiration and thus tend to occlude the glottis and produce ultimate suffocation. The above considerations show sufficiently that the recurrent laryngeals are necessary to ordinary breathing.

Taking the first part of the second objection—namely, the difference in length between the two recurrent laryngeals—I could point out that there is a similar difference in length between the two phrenics, the right being shorter than the left, and therefore there is a direct correspondence in this between the phrenic and recurrent laryngeal nerve on each side. In the second part of this objection Dr W R. Smith refers to cases where, according to him, the recurrent laryngeal do not "recur." The best answer to this is found in the following quotation from John Hilton. He says, "Now it has fallen to my lot to see examples in the dissecting-room in which the inferior laryngeals did not wind round the arch of the aorta or the subclavian artery, yet the course of the nerve was, notwithstanding equally recurrent, thus clearly indicating it had no necessary relation with the subclavian or aorta." As a further proof of the necessity of the lengthening of these nerves may be mentioned the fact that they are now believed to belong not to the vagus proper, but to the spinal accessory. In an appended note to his paper my father explains the reason of the direct course of the superior laryngeal nerve and of the necessity of the arytenoideus being supplied by it. Suppose any irritation, as from a crumb should affect the laryngeal mucous membrane, it is necessary that it should be conveyed as rapidly as possible to the nerve centre in order that the rima glottidis may be closed at once to prevent descent of the crumb into the trachea, the motor impulse is sent direct through this motor filament of the superior laryngeal nerve to the arytenoideus, which is the most powerful constrictor of the glottis.

I am, Sirs, yours truly

Finsbury square March 16th, 1893.

ARTHUR T DAVIES.

"HOW UNION APPOINTMENTS ARE MADE"

To the Editors of THE LANCET

SIRS.—Will you kindly give me space to answer the letter of "M R C S" in your last issue? In the opinion of "M R C S" it is perfectly right that any man who buys a practice should be given the appointments in connexion with it whatever the claims of other candidates may be, and he goes so far as to say that ninety nine out of every hundred will add, "and rightly so too." I do not agree with this, nor do I think it is the universal opinion. "M R C S" has altogether ignored the main point of my letter wherein I objected to boards of guardians advertising union appointments already practically filled up, but goes on to draw a dismal picture of a man who has invested his capital in a country practice and does not secure all his predecessor's appointments. What does "M R C S" think of the well-qualified and experienced man

fantry, is granted furlough in and out of India (p a) for two years. Surgeon Captain P Mullane, M.D., 7th Bengal Infantry, is granted leave for one year. Surgeon Major M O'Dwyer, Civil Surgeon, Jullundur, has obtained special leave of absence for six months, from April 14th, 1893, or such subsequent date as he may avail himself of it.

NAVAL MEDICAL SERVICE.

The following appointments are announced. Staff Surgeon James O'B Williams to the *Tourmaline* (dated March 28th, 1893). Surgeons Joseph C Wood to the *Wildfire*, additional, for temporary service at Valmer Depot, and Thomas O Rowlands, M.B. to the *Wildfire* (both dated March 25th, 1893). O L W Buntin, M.B., E T Meagher and A S G Bell to the *Vivid*, F D Lumley and H E Tomlinson to the *Victory*, B B Gilpin to the *Pembroke* and F H A Clayton M.B., and P Lord M.B., to the *Excellent*, all additional (dated April 11th, 1893). F J A Dalton to the *Pembroke*, P M May to the *Vivid* additional, Richard Barnard to the *Sphinx*, Alexander G W Bourn to the *Redbreast* and Alfred Sturdee to the *Vivid*, additional (all dated March 27th, 1893).

VOLUNTEER CORPS

Rifle 2nd Volunteer Battalion, the Royal Fusiliers (City of London Regiment). George Trew Cattell, M.D., to be Surgeon Lieutenant (dated March 25th, 1893).—3rd Volunteer Battalion, the Cheshire Regiment. Surgeon Major G Okell to be Surgeon Lieutenant-Colonel (dated March 25th, 1893).—1st Volunteer Battalion, the Duke of Cornwall's Light Infantry. Caspar Robert Laurie, Gent., to be Surgeon Lieutenant (dated March 25th, 1893).—5th (Isle of Wight, Princess Beatrice's) Volunteer Battalion, the Hampshire Regiment. Kenneth Walter Ingleby Mackenzie, Gent., to be Surgeon Lieutenant (dated March 25th, 1893).—3rd (Morayshire) Volunteer Battalion, the Senforth Highlanders (Ross shire Buffs, the Duke of Albany's). Surgeon Major G Whyte, M.D., to be Surgeon Lieutenant-Colonel, to resign his commission, also to be permitted to retain his rank and to continue to wear the uniform of the Battalion on his retirement (dated March 25th, 1893).

THE VOLUNTEER OFFICERS' DECORATION

Thames District.—Surgeon Lieutenant Colonel D H Monckton, M.D. Commanding the Maidstone Company, Volunteer Medical Staff Corps.

THE SUMMER SESSION AT NETLEY

At the Summer Session of the Army Medical School, Netley, which will commence on Monday next, fourteen candidates for commissions in the Army Medical Staff and fifteen candidates for commissions in the Indian Medical Service will attend the course of instruction.

YOUNG SOLDIERS AND SERVICE IN INDIA.

The *Army and Navy Gazette* has a long article on this subject, founded upon a contribution from the Professor of Military Hygiene at Netley which our contemporary is unable to publish *in extenso*, but the salient points of which it concisely summarises. From a table furnished by Professor Notter of the annual average mortality per 1000 of European soldiers in India in different periods during the present century, it appears that in the period 1800-1830 the annual average mortality was 84.60, 1828-1844, 54.09, 1830-1856, 56.70, 1869-1878, 19.30, 1879-1888, 16.02 per 1000 of European soldiers in India. In 1888 the death rate was only 14.84 per 1000. Typhoid fever first appeared in the statistical returns for India in 1861. During the ten years 1870-79 the mortality from enteric fever in the army of India averaged 2.03 per 1000, during the six years 1880-85 it was 2.98, in 1887 it rose to 3.76, and in 1888 it was 3.75 per 1000. The explanation of this increase in enteric fever, with a concurrent decrease in other fevers, is, no doubt, that it is partly attributable to a difference in nomenclature, but other factors are also present, and amongst the chief of these Professor Notter includes the large proportion of young soldiers now serving in India compared with former years, and, in addition, the still more important factor of new arrivals in the country. Under the short service system the proportion of men serving in India under five years is far larger, of course, than it was formerly. In 1871 the proportion was 64.6 of the total number, in 1888 it was 75.8. "The increased prevalence of enteric fever in India has, therefore, been accompanied by, and is possibly dependent on, an increase in the number of young and recently arrived soldiers." All this has been so frequently repeated, however, that it has become an old story, and the facts are

almost universally admitted. The *Army and Navy Gazette* draws the moral that in preparing the relief programme those regiments should as far as possible be sent on to India which have a large leaven of older soldiers, so that the younger ones may be sent away to the hills for the hot weather, and that, when matters can be arranged, battalions should undergo a process of acclimatisation by being moved on eastward from the Mediterranean and Egypt instead of being sent to India straight from England.

THE PHYSICAL AND SOCIAL TRAINING OF YOUNG OFFICERS.

We are glad to notice that our contemporary, the *Broad Arrow*, calls attention to the reports of the boards of visitors to the institutions for training of military cadets. The defects dwelt upon, as far as regards the Royal Military Academy at Woolwich is concerned, are on the physical side and as regards the Royal Military College at Sandhurst of a social kind. The latter do not concern us, but the former come within our purview as a question of health and hygiene. The bathing arrangements for the cadets at Woolwich are unsatisfactory. It is not so much a question of the use of cold water for baths in winter as the unsuitable and uncomfortable character of the arrangements. The bath rooms are small and uncomfortable, with sloppy floors and splashed walls. The passages are cold and draughty, and the provision for warming and a fair amount of comfort during the cadet's subsequent dressing is inadequate. Anything like a system of coddling for healthy boys is to be deprecated, but cadets are liable to catarrhs and influenza like other people. They have to go to an early parade, too, where they must of necessity stand still in the ranks after all this preliminary preparation for "catching cold." Their success at a military college depends upon the maintenance of their health, and their parents have to pay for them whilst there, consequently they are fairly entitled to a reasonable amount of provision being made for their health and comfort. It is not surprising that in the report of the visitors for 1892 we are told that about one fifth of the whole number of the cadets were admitted to hospital for bronchitis and sore-throat. The hospital, moreover, is said to be quite inadequate and unsuitable for the purpose.

MEDICAL AFFAIRS UNDER THE NEW RÉGIME IN EGYPT

Before the late change in the Egyptian Cabinet the appointment of Surgeon Captain Pinching of the Medical Staff as Inspector General of the Sanitary Department, with a salary of £1000 a year, had passed the ordeal of the Financial Committee, and was only awaiting what was supposed to be the formality of Ministerial sanction to become *un fait accompli*. Riaz Pasha, however, has now interposed his veto, and, as diplomatic pressure is not forthcoming, the matter has been allowed to drop.

THE FRENCH IN DAHOMEY

The question of the maintenance of an army of occupation in Dahomey is a serious one for the consideration of the French Government at the present time. The climate is notoriously unhealthy, and any prolonged sojourn on the West African coast will entail a good deal of sickness and invaliding amongst the French troops, with periodical drafts from France to make up the losses. We can well understand that the French Government is desirous of conferring with General Dodds as to the present aspect of affairs and the General's future plans, for, apart from the fact that King Behanzin and the Dahomeyans have not been so crushed as to be unable to offer further resistance and give trouble in the future, there is the permanent enemy of an unhealthy climate, with fever and dysentery, to be taken into account and this means a constant drain upon the French army and treasury.

BULLET PROOF CUIRASSES

The alleged invention of a bullet proof clothing by a tailor named Dove of Mannheim has aroused great interest in Austria, Germany and elsewhere. The intelligence was naturally entirely disbelieved at first and is still, of course, regarded with a good deal of incredulity. Several experiments are alleged to have been made, however, with the bullet proof material in Germany and it is said that bullets from a seven millimetre rifle did not penetrate it at a distance of 400 300 or even 200 yards. The exact composition of the material used is kept secret, but the cuirass is described as weighing 6lbs, as being about one and a half centimetres thick, and not flexible. Herr von Mannlicher has been interviewed on the subject, and, whilst

them being the Bridgewater trustees. As is usual in such cases, there will be plenty of objectors to this project of the corporation for obtaining a suitable site for the disposal of their refuse but there is no valid reason for believing that harm will be done to anyone or that the uninhabited district of Cadishead Moss will be in any sense prejudiced by the contemplated action of the corporation.

March 28th.

BIRMINGHAM

(FROM OUR OWN CORRESPONDENT)

The Queen's Hospital

THE annual meeting of the board of this hospital was held on March 22nd, under the presidency of the Earl of Dudley. The chairman of the board (Alderman Clayton) said that there were three matters in the report of considerable interest: the increase in the number of the beds, the re-arrangement of the casualty ward, and the question of finance. He alluded to these in detail. He pointed out that nineteen twentieths of the casualty patients were seen twice, on the second visit they would be charged a registration fee. This was an important departure in the conduct of such cases, which might call for criticism. Mr Bennet May, chairman of the Medical Committee, said that the year had been a full and satisfactory one, though there had been no very striking features to attract attention. A special vote of thanks was passed to the working men of Birmingham for the £1741 15s 9d contributed from the Hospital Saturday funds.

The Women's Hospital

The annual meeting was held on March 23rd the mayor presiding. The report showed that the number of new patients treated at the out-patient department had been 2569, a decrease of 141 compared with last year, the number of in patients admitted had been 277, an increase of 67. The committee regretted the loss of Mr Tait and desired to record their sense of the valuable services he had rendered to the hospital since he had been elected its consulting surgeon. The financial report showed an excess of expenditure over income. Various votes of thanks were passed.

Medical Trial

At the recent assizes Dr Evans brought an action against the proprietors of the *Birmingham Daily Post* for an alleged libel contained in an article published on Dec. 29th, 1889. The jury awarded him a verdict with £75 damages.

Mason College

The annual report has just been issued. It states that the total expenditure was £11,436 12s 7d and the income £10,275 10s 7d. The great event of the year has been the transference of the Queen's Faculty of Medicine. The report deals with the growth and prosperity of the college and gives a number of interesting details.

March 28th.

LIVERPOOL

(FROM OUR OWN CORRESPONDENT)

The Liverpool Eye and Ear Infirmary

MR EDGAR BROWN, the senior surgeon to the Liverpool Eye and Ear Infirmary, has just concluded a very successful course of lectures at the hospital, which has been attended by many local medical practitioners and others coming from a considerable distance. Mr C G Lee has delivered three lectures on Diseases of the Ear, the last of which was given on March 27th. These lectures are of a clinical character and are illustrated by patients. The attendance of patients is very large, and the surgeons have very favourable opportunities of demonstrating diseases of the eye and ear in all their forms.

The Liverpool School for the Deaf and Dumb

Though not medical institutions in the strict sense of the word schools and institutions for deaf mutes are of great interest to all medical practitioners. The Liverpool School for the Deaf and Dumb commenced as a very modest institution in 1825. In 1839 the present school was erected on the site of the old Botanic Garden and opened in October 1840. The school has given free education to all deaf and dumb children in the city and neighbourhood, boarders being re-

ceived for a moderate charge from those parents who are not in a position to pay more, whilst accommodation is afforded for the children of those who are in better circumstances and able to pay more. The school has recently sustained a great loss in the death of Mr Illingworth, the late Principal, and the committee will have some difficulty in replacing him.

The Assizes Accommodation for Medical Witnesses

Allusion has been made in previous letters to the entire want of proper accommodation for medical witnesses during the first few days of the assizes when they are waiting to be called before the grand jury. This has now been remedied, a commodious room in the west corridor of St George's Hall having been set apart for medical and other professional witnesses by the finance subcommittee of the city council, which has the control of this and other public buildings. As the assizes are held here four times yearly for the whole of south west Lancashire the attendance is required of many medical witnesses who will greatly appreciate this new arrangement for their convenience and comfort.

The Blackburn Murder

The trial of the youth aged sixteen for the murder of a chemist at Blackburn took place last week, ending in a verdict of manslaughter and a sentence of fifteen years' penal servitude. The prisoner, after being arrested on the charge, made a statement, not knowing what the medical evidence would be. The evidence of Dr Wheatley, surgeon to the Blackburn police, was to the effect that the wounds on the head of the deceased were more likely to be caused by a blow from a hammer held sideways than by striking the head against the floor. The prisoner's conduct after the tragedy showed great coolness and cunning.

The Homicides on Christmas Day and New Year's Day in Liverpool

A man was tried for the murder of his wife on the morning of Christmas Day and a young woman for the manslaughter of a man on New Year's Day. Both fatalities were the result of drink. In the former case, the woman's back was a mass of bruises and wounds, the causes of death being shock and hæmorrhage. In the other case, the man had received two wounds in the chest, both penetrating the pericardium, and one wounding the heart itself. Sentences of fourteen and seven years respectively were passed.

March 28th.

NORTHERN COUNTIES NOTES

(FROM OUR OWN CORRESPONDENT)

Whitley Convalescent Home

FROM the report presented at the annual meeting of the Whitley Convalescent Home by Dr Philipson it appears that the number of patients admitted last year was 1536 being 41 in excess of the previous year. The total number admitted since the institution was opened in 1869 has reached 24,753. The results are equally favourable as those given in previous reports. The financial state of the convalescent home is satisfactory although the receipts were less than in the previous year, the falling off being under the head of legacies, and the expenses were higher, owing to some necessary improvements.

Cumberland

Dr Lediard has concluded his course of lectures to ladies on nursing. The course has been very successful, there being more than 300 entered. Dr Lediard was the recipient of a testimonial from his class last week at the High School, Carlisle.

Small-pox

Cases of small pox have been reported from Carlisle, Penrith and Appleby. I see also that a fatal case has occurred at South Shields. It is stated that since the institution of compulsory baths for tramps at Kirby Stephen the visits of the tramping fraternity have diminished as has consequently the small pox. Still, unless the 'order of the bath' is made general at country workhouses, it will not do much good.

St Bees a Holiday Resort

The inhabitants of St. Bees which has great natural attractions as a seaside resort, are making an effort to develop and improve the place in this respect. The great railway companies are also aiding by placing St. Bees on their tourist system.

without capital whose only chance of obtaining a practice of his own is by getting an appointment to commence with and so work on? Is this man for ever to be only an assistant because, in the opinion of "M R C S," he has no right to apply for an appointment publicly advertised? Is it mena and unprofessional, as "M R C S" says it is, for him to try for such an appointment? I think not. It is essentially in the village class of practice that it is most desirable that a good man should be selected, as he has in all cases of emergency to rely solely on his own resources, yet, according to "M R C S," this responsible post should be given to a man merely because he can put down so much money.

It is said that at the College of Surgeons of Edinburgh a candidate, on being rejected at his final examination, asked the examiners to reconsider their decision, on the ground that he was *only* going to be a ship's surgeon. "All the more reason," said one examiner, "that you should be thoroughly up in your work, as there you will have no one to assist you." This applies with equal force to a village practitioner, usually miles away from his nearest medical confrère, and, therefore, the best man should be selected and not necessarily the one who buys the practice.

I am, Sirs, faithfully yours,

M R C P

March 27th, 1893

"CANCER PLASTERS"

To the Editors of THE LANCET

SIRS,—Dr S W Plummer in THE LANCET of March 25th calls attention to the serious consequences following the treatment of cancer by "quacks," and suggests "that if all such cases were reported it might lead to some more stringent regulations being adopted." In support of this suggestion, permit me to report a case now under my care in the Lincoln County Hospital. An ignorant woman has for some months (by false promises) misled the patient, who now, when it may be too late, has discovered her mistake. About six months after she first noticed a small lump in her right breast she consulted a medical man, who told her she had cancer and strongly recommended its removal. A month later she saw another medical man, who confirmed that opinion. Instead of following their advice, which would have saved her much suffering, she was persuaded by the quack woman to try her remedies which she declared, "would certainly cure the disease." For eight months almost to the time of being admitted into the hospital, the patient continued the treatment by ointment, pills and medicine advised by this woman, at an average cost of 3s per week, with the result that the tumour enormously increased, implicating skin, glands and muscles. A most extensive and serious operation was now found to be necessary. This was performed. Although every particle of disease has, so far as can be detected, been removed, yet the chances of recurrence are very great after such serious delay. This is but one case out of many for the majority of cases of cancer—at any rate, in Lincolnshire—are allowed to advance till the chances of eradicating the disease are lost. Ought this reckless cause of suffering and loss of life to be allowed to continue unchecked?

I am, Sirs, yours truly

W J CANT, L R C P Lond, M R C S,
Consulting Surgeon, Lincoln General Dispensary, Hon.
Surgeon, Lincoln County Hospital

March 27th, 1893.

MANCHESTER

(FROM OUR OWN CORRESPONDENT)

Termination of the Cotton Strike

AFTER many months of fruitless struggle between employers and employed, a compromise has at length been agreed upon, the basis of settlement being a reduction of 7d in the pound, or nearly 3 per cent., on the old rate of wages. Although the continuance of the strike through the winter months must have been attended by great privation to many thousands of Manchester cotton hands, nevertheless there appears to have been no corresponding increase, either in the amount of pauperism or in the proportion of persons on the sick lists of the several medical charities of the city. Some explanation of this fact may be found in the circumstance that, although the battle between employers and men has been chiefly fought out in Manchester, nevertheless the districts chiefly affected by the strike are comprised within the areas of the smaller towns

just outside the cess area rather than within the boundaries of Manchester itself. It is to be hoped that the recent disputes between employers and employed will have borne fruit in at least one important direction. In the course of the several conferences which were held in Manchester with a view to a settlement of the points in dispute certain agreements were arrived at which, it is hoped, will prevent a recurrence of such profitless squabbles in future. For instance, the appointment of a standing consultative committee has been decided upon, fully representative of the interests alike of masters and men, who will confer from time to time on all matters affecting the interests of the several branches of the cotton trade and make known their recommendations in the proper quarter. If this arrangement be faithfully and loyally carried out by all parties concerned there is every hope that we have seen the last of these disastrous and discreditableness interferences with commerce in Lancashire and its vicinity.

The Small pox Epidemic

As yet there are no indications that the end of the small pox epidemic is approaching. The reported cases within the three weeks ending March 18th have steadily increased from ten per week to twenty nine, and although in the week ending on Saturday last the numbers reported did not exceed nine, nevertheless the distribution of infection seems still to be very general, and at least eight of the eleven sanitary areas of the city are reported to have sent cases to hospital within the last few weeks. As is the case elsewhere, the workhouse tramp wards and common lodging houses of the city are the places from which most of the cases of small pox are removed, and although it is true that these places are, or may be, fairly well kept under supervision by the authorities, still it remains the fact that persons of the common lodging house or "tramp" class are difficult to deal with and, because of their nomadic habits, are peculiarly liable to carry infection with them from infected to non infected localities. Revaccination does not seem as yet to have been had recourse to by the poorer class of Manchester residents to anything like the extent which is necessary for their efficient protection against small pox. The guardians of the three unions constituting the city have been very active in issuing printed notices and in making special arrangements with the public vaccinators, but hitherto the official reports show that, practically, revaccination has been almost entirely neglected by the class of people who are most in need of protection. But although the legally constituted authorities for the promotion of revaccination are less successful than one could wish, it is satisfactory to find that the Jewish Board of Guardians, a voluntary association for the relief of the poor belonging to that community, have been much more successful. The expedient adopted by this enterprising board is that of making the granting of relief at the feast of the Passover conditional on the production by the candidate of a medical certificate to the effect that both he and his family have been vaccinated or revaccinated, as the case may be, and as the operation is performed by all the public vaccinators free of charge the regulation of the board inflicts hardship on no one.

Manchester Guardians and the Cancer Hospital

In a recent letter I commented on the addition to our local charities of a new hospital for the treatment of persons suffering from this terrible malady. At the last meeting of the Manchester guardians an application was made to the board on behalf of the funds of this charity. Although nothing has as yet been decided upon, it is certain that the guardians will eventually give the Stanley Hospital their support for the reason that many of the poor for whose care and treatment the board are responsible will be eligible for admission to the hospital wards or for treatment as out patients of the institution.

Manchester Council and Cadishead Moss

The Cleansing Committee of the city council have at length succeeded in providing themselves with a suitable area for the reception of the vast residual amount of night soil and other manurial refuse from the city of Manchester, which cannot now be sent to the Carrington Estate. Cadishead Moss is nearly two square miles in extent, and is situated between the Manchester and Liverpool turnpike road on the one hand and the L and N W main line to Liverpool on the other. The land was reclaimed about thirty years since, and was divided under the powers of the Inclosure Commissioners' Act amongst the freeholders of the district, the principal of

BERLIN

(FROM OUR OWN CORRESPONDENT)

Professor Georg Lewin

The friends of Professor Georg Lewin, Privy Councillor on Medical Affairs and one of the directors of the Berlin Charité, celebrated the twenty fifth anniversary of his appointment to a chair in the University of Berlin yesterday.

The Berlin Polyclinics

The Medical Professional Union held a meeting here on March 23rd, and adopted the following resolution: "The medical men assembled to-day declare that the efforts at reform in the matter of the Berlin polyclinics must be directed first and foremost to the keeping away of patients who are able to pay from these institutions so far as this is compatible with the aims of medical instruction, and entrust the further conduct of the agitation to the Professional Union."

Professor Von Pettenkofer on the German Epidemic Bill &c

Professor von Pettenkofer is said to have expressed his disapproval of the Imperial Epidemic Bill, especially as regards isolation, disinfection, quarantine and the hampering of traffic at frontiers. He is also reported to have confirmed the news that Bavaria opposed the bill in the Federal Council, but was outvoted. Of the Dresden International Sanitary Conference, it is said, he expects nothing, because with the exception of the English delegates all the members are followers of Dr Koch and M. Pasteur, whereas the one and only thing needful is the improvement of general hygiene. He hopes that Professor Virchow will succeed in getting the Bill rejected in the Reichstag. He thinks it likely that cholera will break out again this year, but believes that South Germany, and especially Munich, has nothing to fear.

Professor Wilhelm Erb

Professor Wilhelm Erb of Heidelberg has been called to Vienna to succeed Dr Kahler as professor of clinical medicine there.

The German Clinics for Mental Diseases

A Clinic for Mental Diseases has been established in connexion with the University of Tübingen. There are now only three German Universities—Kiel, Giessen and Rostock—which are without such a clinic, and negotiations are in progress for the supply of this defect at Rostock.

Professor Koch

Professor Koch will give courses of instruction on cholera for specially selected medical officials next month.

The Victoria House

The Victoria House for the Tending of the Sick, which has now completed the first decade of its beneficent activity held its annual general meeting on the 19th inst. During the past year the number of the sisters has risen from 149 to 160. Ninety four of them are in the service of the hospitals of the city of Berlin, the others in other institutions here and elsewhere. Some of them were employed at Hamburg during the cholera epidemic. The income of the establishment was 67,078 marks its expenditure 67,097 marks. It has a fund of 257,165 marks, including a pension and relief fund of 56,713 marks.

The International Sanitary Conference

The Saxon Minister of Foreign Affairs gave a banquet on March 19th in honour of the delegates to the International Sanitary Conference now sitting at Dresden. Berlin, March 27th.

CREMATION—At a recent meeting of the Warrington Literary and Philosophical Society the subject of cremation was introduced by a paper read by Mr C E Richmond, F.R.C.S. The question was discussed under the following five aspects—religious, sanitary, economical, medical and emotional. These points were severally dealt with by the lecturer in a way which secured the concurrence of his auditors. After the lecture a speaker referred to the fact that the bodies of fifty eight persons who had died from small pox had been interred in the Warrington Cemetery, and he asked whether such interments might not be the cause of epidemics for if so no further argument was required to show the need of the universal practice of cremation.

Medical News.

VICTORIA UNIVERSITY FACULTY OF MEDICINE—The following candidates have satisfied the Examiners—

Second Examination

Badger W S University College	Miller T H, Owens College
Callam, H. S. Yorkshire	Moore F C "
Coates Harold, Owens	Nickerson G S "
Davies, A. V. "	Pickering S "
Desai, U. L. "	Renshaw J H "
Hartley John "	Shaw J V Yorkshire
Holt J J H "	Slompson W C G Owens
Jeffery H F "	Smith E. A. University
Ligertwood, C. E. Yorksh.	Stahlknecht, B. "
Lowe J P Owens	Thorp Spencer Owens
McDougall J E Univer	Trotter R H Yorkshire
Mackennal Henry Owens	Watkins B V, Owens
Main, D. W., University	Woodcock, H. de C., Yorks.

Final Examination (Part I)

Ainsworth Hugh, Owens College	Nesfield R. W. Owens College.
Bowden W J "	Nixon H. T. University
Compton E. L. "	Nixon, J. P. "
Cooper P. R. "	O'Hagan J J. "
Darbyshire D. E., Univ	Rhodes, M. R. Owens
Dav, F. H. "	Robinson H. A., Univer
Dickinson H. B. "	Smith H. S., Owens
Edwards N. F. Owens	Spencer Edw. Univer
Hayward, W. D. Univ	Stephenson John, Owens
House, S. H. "	Storey W. H. Yorkshire
Howe John Owens	Thompson, Peter Owens
McDougall, Alan	Thomson S. W. "
Minshall, E. D., Univer	Wilkinson Philip "

Final Examination (Part II)

Barker W. E., Owens College	Garfit C. C. Owens College.
Byers Alfred "	Healy John "
Cooper P. R. "	Jones C. R. University
Dickinson H. B. Univer	Woods F. J. "
Dixon, J. L. B., Owens	

* Second-class honours.

SOCIETY OF APOTHECARIES OF LONDON—The following candidates have passed an Examination in the subjects indicated below—

Surgery—H. H. P. Cotton and E. C. Drake Westminster Hospital; J. Edwards W. S. Newton, and E. Williams London Hospital; M. Ferguson Bellevue College New York G. L. Godwin, Edinburgh E. A. Grafton, Montreal J. M. James St. Thomas Hospital H. W. Joyce and W. H. Reed King's College E. B. Pellatt, Royal Free Hospital W. J. Rogers St. Bartholomew's Hospital E. White, Bristol.

Medicine Forensic Medicine and Midwifery—A. H. Bygott and G. P. L. Gregory Queen's College Birmingham E. A. Grafton Montreal E. Johnstone Owens College Manchester, A. E. Kennedy, London Hospital W. Turner King's College.

Medicine and Midwifery—R. W. Prentice, King's College.

Medicine—E. C. Adams and H. T. Dutton, St. Bartholomew's Hospital W. S. Newton London Hospital W. E. Pain, Guy's Hospital, A. B. Sturges Yorkshure College Leeds.

Forensic Medicine and Midwifery—D. Berne and E. B. Pellatt Royal Free Hospital.

Forensic Medicine—H. S. Chavasse Birmingham and St. Mary's Hospital B. J. Macaulay, Middlesex Hospital A. J. Pett, Cambridge University and Leeds E. Williams, London Hospital.

Midwifery—M. Ferguson, Bellevue College New York T. M. Nair Madras Edinburg and St. Mary's Hospital F. S. Park Liverpool and Edinburgh W. J. Rogers St. Bartholomew's Hospital.

The diploma of the Society entitling the candidates to practise Medicine, Surgery and Midwifery, has been granted to the following gentlemen—

Messrs Berne Chavasse Cotton Drake Godwin, Grafton, James, Joyce Kennedy Newton, Park, Turner White and Williams.

ST MARY'S HOSPITAL—The prominent feature of the report read at the annual meeting of the friends of this hospital last week was the unsatisfactory condition of its finances. The chairman said that although the net increase in the receipts was larger than that of the preceding year yet that increase was entirely owing to the unwanted number of legacies bequeathed to the charity and he appealed to the generosity of the public to support an institution which had conferred such benefit on the suffering poor of the neighbourhood.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL—The forty fourth annual meeting of this hospital was held in the Bell Medical and Surgical Library and Institute on March 14th. The report stated that 2098 in patients and 14,242 out-patients had been treated during the year. The income for the past year was £7503 showing an increase of £37 as compared with the receipts of the previous year. The expenditure was £7883, an increase of £132 over that of the preceding year. It was stated that a horse ambulance had now been attached to the institution and was used in conveying patients to and from the hospital.

Sad Suicide of a Student

On Friday evening last a student who had failed at his registration examination at Durham took his life by a large dose of chloral hydrate. It was stated at the inquest that the poor boy, whose age was only sixteen, sat at the examination from Monday until Friday and had set his heart on passing, hence his disappointment.

A Long Service

This week Dr Thos Stanthorpe, who is medical officer to the Hexham Union workhouse, completed fifty years' service in that capacity, having been appointed on March 24th, 1843. Dr Stanthorpe has been in general practice for the past fifty five years. He is always busy with public duties, and if there is a professional meeting at Newcastle he is almost certain to be present.

Sunderland and North Durham Eye Infirmary

It is proposed to hold a grand bazaar on Monday next in aid of the Sunderland Eye Infirmary. It is to be opened by the Countess of Scarborough and is likely to be one of the largest entertainments of this nature ever held for a Sunderland charity, as over 600 tickets have been already sold.

Ambulance Review

It is proposed to hold an ambulance review of the principal centres in the northern counties this summer at Newcastle. The date is not yet fixed.

Newcastle-on Tyne, March 29th.

SCOTLAND

(FROM OUR OWN CORRESPONDENT)

Reopening of the Convalescent Hospital, Corstorphine

THIS hospital, which is connected with the Edinburgh Royal Infirmary, has been closed for several months owing to alterations and enlargements. These being completed, it was officially opened by the Marchioness of Tweeddale in the presence of the Lord Provost, some of the managers and staff of the Royal Infirmary and others. The Marchioness, who made a speech before declaring the new wards open, dwelt upon the necessity of such an institution in connexion with a large hospital where patients might regain strength after illness before returning to their homes and work. Two new wings have been added to the old building, giving two new dormitory wards containing twenty beds each, day rooms, bath rooms and other necessary accommodation. Changes have also been made in the kitchen arrangements and servants' accommodation. The hospital now has beds for 100 patients. In the new wards the beds are placed head to head in the centre of the ward, this being a plan adopted by the late Mr Fasson as giving more room. The additions and alterations cost about £8000.

Medical Examinations in Edinburgh

Last week the examinations for the University First Professional were held. The Second Professional begins this week. Next week the spring examinations for the Triple Qualification will commence.

March 28th.

IRELAND

(FROM OUR OWN CORRESPONDENT)

Health of Dublin during 1892

THE births registered in the Dublin Registration District during last year numbered 9699, or 28 per 1000 against 29 per 1000 last year, whilst the deaths were 10,214, or 29.2 against an average of 27.5 per 1000 for the past ten years. The total number of deaths from zymotic diseases, which had fallen from 1019 in 1890 to 865 in the following year, rose last year to 1500, or 26.2 over the average for the ten years 1882-91. The increase was chiefly due to the prevalence of measles for the greater part of the first half of the year and to the comparatively large number of deaths from influenza and its complications in the first quarter. The mortality from scarlet fever was only 21 deaths, against an average of 142 for the previous ten years, measles caused 472 deaths, typhus fever 9, typhoid fever 122, influenza 224 and whooping-cough 155. There were 3 cases of small pox treated in Dublin hospitals in 1892, but all recovered, and the disease has not proved fatal in the Dublin district since March, 1888.

National Hospital for Consumption

The report of the Executive Committee states that the sums promised to the building fund amount to £10,431 3s 6d, of which £9571 12s 6d have been received. The site for the hospital has been generously given by Earl Fitzwilliam free of rent, and plans of the building have been approved. The site consists of about nineteen acres, situated three miles inland, in the county of Wicklow. It is well sheltered and has a southern aspect, and the medical members of the committee have unanimously reported in its favour. It is proposed that the constitution and government of the hospital shall be incorporated under the Companies Act, 1867. It is intended that the buildings shall be erected on the plan of the Ventnor Hospital, in separate blocks, the extent of the building depending in the first instance upon the amount of annual support to be promised. With a view to secure an income for the maintenance of the hospital a member of the Executive Committee has generously offered to provide £100 per annum in perpetuity if a further sum of £900 per annum be promised for the present.

Sir Patrick Dun's Hospital, Dublin

A conversation in aid of the funds of this charity will be held in the Royal College of Physicians on April 20th, and a concert for the same purpose in the Examination Hall, Trinity College, on April 29th.

March 29th.

PARIS

(FROM OUR OWN CORRESPONDENT)

The Obstetrical Society of France

THE second session of this Society will be held at Paris in the small amphitheatre of the Faculty on April 5th, 6th and 7th. The subjects of discussion will be "Symphysiotomie" and "Les Services d'Accouchement en France."

Abuse of Charity in Hospitals

It is not an uncommon occurrence in this very thrifty land for rich provincial men to enter hospital for operation in order to shirk the fee payable to the surgeon operating *a domicile*. A scandalous incident of this kind has recently come to light in one of the Paris hospitals, the too economical occupant of the bed being an exceedingly wealthy suburban gentleman who duly underwent an operation under an assumed name. The circumstance having been brought to the notice of the Municipal Council, the two following resolutions, which I transcribe textually, were adopted: "Le Conseil (1) invite l'administration à prendre des mesures énergiques pour empêcher que des gens aisés et même riches se fassent opérer gratuitement dans nos hôpitaux, rendre beaucoup plus sévères les enquêtes sur la situation de personnes dont le domicile permanent à Paris n'est pas établi (2) À étudier l'application d'un prix de journée spécial pour les malades aisés."

A New Foot warmer for Cabs

In winter the word *chauffee* borne by Paris cabs denotes that a comforting foot warmer is provided in the interior of the vehicle. This practice has recently taken a great expansion, many omnibuses and trams being now similarly treated. But, however comforting such a provision may be to the shivering "fare," it is not always devoid of danger, many accidents having happened from the inhaling of deleterious gases evolved by the heating material. M. Loison de Viviers has recently solved the difficulty by the invention of an apparatus in which the heat procured by the slacking of lime (140 to 320 calories per kilogramme) is utilised. The warmer consists of two compartments, in one of which is placed some quicklime and in the other water, the latter being allowed, by an appropriate mechanical arrangement, to percolate slowly or quickly, and during any time desired, into the lime chamber. A temperature of 100° C is thus easily maintained for a time proportional to the capacity of the warmer.

A Hospital for Phthisis for Paris

In a former letter I drew attention to the crowding of the general hospitals of Paris with phthisical patients and to the inconvenience and danger resulting therefrom. The Assistance Publique is, with the approval of the Municipal Council about to remedy this state of things by the creation at Angicourt, in the Department of the Oise, of a hospital for phthisis.

March 27th.

The Use of the Revolver

The Marquis of Carmarthen asked the Secretary of State for the Home Department whether he had caused inquiries to be made among the officers of Great Britain as to the number of deaths caused by revolvers and, if so, whether he would communicate the result of those inquiries to the House. Mr. Asquith said he had caused inquiries to be made and had received a good deal of useful information from coroners and others. He hoped that all the replies to the circular which he had sent would have arrived shortly and when the information was complete the question would be considered whether it should be presented to the House.

Hospital Officers and the Income Tax

Sir Herbert Maxwell asked the Secretary to the Treasury whether it was the case that under 5 and 6 Vic. c. 25 Schedule A, Section 61, power was taken to assess for income tax the premises occupied by hospital officers and servants of hospitals and other charitable institutions even where such premises formed part of the main building and the salaries of such officials and servants when exceeding £150 per annum, were separately assessed for income tax, whether in fact it had been the practice to assess on such premises, and whether he would consider the expediency of providing for their exemption. Sir John Lubbock replied that the Act referred to granted allowance of the duties charged on Schedule A of the Income Tax on any hospital &c. in respect of public buildings and premises belonging to it and not occupied by any individual officer whose whole assessable income, however arising, amounted to £150. It had been and it was the practice to limit the charge to the annual value of the premises so occupied and to let the rest go free, and he did not see any ground for altering that practice.

Cholera Hospitals (Ireland) Bill

In the House of Lords on the 24th ult. this Bill was read a second time.

Licensing Reform

The Bishop of London presented a Bill dealing with this question, and the main purpose of it was to limit the number of places where intoxicating liquors were sold. Public houses his lordship maintained, should be under the control of the people themselves, and this control should be exercised by transferring the power of renewing licences from the magistracy to a board to be elected by the people. The Bill proposed that five years after the measure became law the number of public houses should be restricted according to the population of the district; this proposition, however, was a matter open to modification. The question of compensation moreover was one to be settled hereafter. Also it was desirable that clubs where intoxicating drinks were sold to the members should be subject to registration and be placed under proper regulations. The Bill was read a first time.

Vaccination and Smallpox

In answer to Mr. Pease, Sir W. Foster said that the vaccination returns for 1892 had not yet been received but with regard to Balesy appeared that in 1891 the number of children born in the borough was 842, of whom 142 died unvaccinated, the operation having been successfully performed in the remaining number. As to Warrington and Manchester the inquiries on the subject were undertaken by the Privy Council Commission on Vaccination and not by the Local Government Board. In reply to Dr. Farquharson Sir W. Foster said that Dr. Sidney Coultard had made inquiry on behalf of the Royal Commission in the circumstances connected with the smallpox outbreak in the Dewsbury district, as well as with regard to Leicester; the results of which would probably be included in the report of the Commission.

Importation of Diseased Cattle

Mr. Gardner said, in reply to a question put by Mr. Jeffreys, that the time which usually elapsed between the onset of symptoms and the exposure to the infection of pleuro pneumonia was about thirty days, which might extend to twice that number. In one instance in which a suspected animal was subjected to post-mortem examination by an expert the disease appeared to have existed for a long period, perhaps a year. In answer to further questions Mr. Gardner said he would consider whether it would be advisable that the Board of Agriculture should institute a series of scientific experiments with a view of throwing light on the question. As to the proposed examination of the lungs of cattle landed in this country from Canada, the arrangements had not yet been formulated but proper precautions would be adopted to prevent as far as possible the introduction of diseased animals into Canada and through that dependency into England.

The Army Medical Board

Mr. Kenny asked the Secretary of State for War whether the military authorities had decided to appoint the examiners for the Army Medical Board from the London College of Surgeons and, if so, whether it was intended to also appoint examiners from the Irish College of Surgeons and whether he was aware that the rumour that the Army Medical Board intended to confine their choice of examiners to the London College had given rise to a belief widespread in medical circles in Ireland that Irish candidates for the Army Medical Service would not receive fair consideration under such a system. Mr. Campbell-Bannerman: Yes, Sir, the examiners are now to be appointed for the limited time of four years and they will be taken from amongst the examiners of the Conjoint Board of England. I do not anticipate that this will have any prejudicial effect on the interests of the Scotch and the Irish School, a result to which I should personally be as reluctant to contribute as the hon. member himself.

Sanitation in Public Buildings

In Supply Mr. Hanbury called attention to the numerous defects discovered from time to time in the sanitary arrangements of public buildings the condition of the Houses of Parliament and that of the Royal Palace being mentioned as examples of these defects. Dr. McGregor said the money spent in this direction was simply wasted. The Sanitation of the Houses of Parliament was scandalous. Mr. Shaw Levee's remarks in view of the complaints raised by several of the speakers were to the effect that the structural defects of the building mentioned were exaggerated and that certain difficulties were in the way of improvements with respect to the defects which were known to exist.

Appointments.

Successful applicants for Vacancies Secretaries of Public Institutions and others possess no information available for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor not later than 9 o'clock on the Thursday morning of each week for publication in the next number.

ADAMS S. H. M.D. Lond. M.R.C.S. has been appointed Medical Officer for the Bedford and Kemp on Sanitary Districts of the Bedford Union.

ALEXANDER, F. W. L.R.C.P., L.M. Edin., M.R.C.S. D.P.H. Eng., has been appointed Medical Officer for the Poplar and Bromley Combined Sanitary Districts.

BARRITT J. W. M.D. Ch.M. Melb. M.R.C.S. Eng. has been appointed Honorary Surgeon to the Victorian Eye and Ear Hospital, Victoria, Australia, vice Bowen resigned.

BARTLETT F. P. L.R.C.P. Lond., M.P.C.S. has been reappointed Medical Officer of the Cowra Hospital, New South Wales.

BOVEY D. J. W. M.B. C.M. Edin., has been appointed Medical Officer of Health for the Rural Sanitary District of the Lunsdale Union, vice Mackay, resigned.

BROWNE, D. G. M.D. Ch.M. Ire. has been appointed Medical Officer of the Narrandera Hospital, New South Wales.

BUTT F. J. M.B. C.M. Edin., has been appointed Medical Officer for the North Western Sanitary District of the Chester Union.

CLEGG RICHARD L.R.C.P. Lond., M.R.C.S. has been appointed Medical Officer and Public Vaccinator for the District of Clayton & Moors and Ebbw Vale, Blackburn Union, vice Illingworth, resigned.

COLLINGRIDGE, Wm. M.D. D.P.H. M.R.C.S. has been reappointed Medical Officer of Health for Port of London.

DETON W. H., M.B. Ch.M. Edin. M.R.C.S. has been appointed Public Vaccinator for Frankston, Victoria, Australia.

FINLAY Wm. M.D. San Francisco has been reappointed Medical Officer of the Young Hospital, New South Wales.

FLORANCE, E. M.D. Paris, has been appointed Medical Officer to the Brandwood Hospital, New South Wales, vice Llewellyn.

FORREST J. A. M.R. Ch.M. Edin. has been appointed Government Medical Officer at Charters Towers, Queensland, vice Paoli, resigned.

GIBBS J. W. M.D. Ch.M. Aberd. M.R.C.S. has been appointed Resident Medical Officer of the Adelaide Hospital, South Australia.

HAYDON H. W. M.R.C.S. has been appointed Medical Officer for the First Sanitary District of the St. Columba Major Union.

HATTS W. A. L.R.C.P. Lond. M.R.C.S. has been appointed Medical Officer for the Second Sanitary District of the Calne Union.

HEELEY J. T. L.R.C.P. Edin., L.S.A. has been reappointed Medical Officer of the Young Hospital, New South Wales.

HEYLAND H. K. M.D. Ch.D. B.M. has been appointed Public Vaccinator at Tanunda, South Australia.

HOGG R. B., M.R.C.S. L.S.A. Eng. has been appointed Senior House Surgeon to the Dunedin Hospital, New Zealand.

KEENEY D. L.R.C.P. L.V. L.R.C.S. Ire. has been appointed Medical Officer for the Workhouse St. James Union.

KEEPE R. S. L.R.C.S. Ire. has been appointed an Honorary Surgeon-Lieutenant on the Medical Staff of the New South Wales Volunteer Force.

MARSDEN R. W. M.B. V.C. L.R.C.P. Lond., M.R.C.S. has been appointed Assistant Medical Officer at the Crumpsall Workhouse, Township of Manchester.

MILLER, J. T. ROGER, L.S.A. Lond. has been reappointed Medical Officer and Public Vaccinator for the Leavening District of the Walton Union.

MITCHELL, Jas., M.B. Ch.M. Aberd. has been appointed Medical Officer of the Narrandera Hospital, New South Wales.

NORRIS Wm. P. M.B. Ch.B. Melb. has been appointed Public Vaccinator at Lilldale, Victoria, Australia.

O'DONNELL E. J. F.R.C.S. L.M. R.Q.C.P. Ire. has been appointed Honorary Medical Officer to the Prevention of Cruelty Society, Queensland.

O'MEEHAN J. A. L.R.C.S. Ire., has been appointed Medical Officer of Health at York, Western Australia.

ROBERTS FRANCIS H., L.R.C.P. Lond. M.R.C.S. has been reappointed Medical Officer of Health for the Llandudno Wells Urban Sanitary District.

SAUNDERS M. P. L.R.C.P. Lond. has been appointed Medical Officer for the Hacknall to Liverpool Sanitary District of the Basford Union.

SHYMS Wm. ST. CLAIR, M.B. Aberd. has been appointed Pathologist to the County Asylum, Pres. wh. Llanerch.

THOMAS JABEZ, F.R.C.S. Eng. L.M. L.R.C.P. F.P.C.S. Edin. has been reappointed Medical Officer at the Swansea Tunnels Works.

TEBBY A. H. M.S. Lond. F.R.C.S. Eng. has been appointed Surgeon to Outpatients at the Evelina Hospital for Sick Children, Southwark-bridge-road, vice Eve appointed Surgeon to Inpatients.

WEBSTER, P. S. M.D. Dm. M.R.C.S. L.R.C.P. Lond. has been appointed Honorary Assistant Surgeon to the Victorian Eye and Ear Hospital, Victoria, Australia.

WHITCOMBE, P., M.R.C.S. has been reappointed Medical Officer for the Hospitals at Denton.

WHITE, J. MACKIE, M.A., M.B. Edin., has been appointed Physician to the Dundee Royal Infirmary, vice Dr. Nicolson, deceased.

WILLS ERNEST M.D. L.R.C.P. Lond. M.R.C.S., has been appointed as is in Medical Officer to the County Asylum, Ebbw Vale, Lancashire, also as a Medical Officer to the Claybury Asylum, Woodford, Essex.

NEW INFIRMARY AT HALIFAX—The memorial stone of the new infirmary at Halifax will, it is understood, be laid on June 17th, when representatives of various public bodies will be present. The occasion will be marked by a somewhat elaborate ceremonial.

ST BARTHOLOMEW'S HOSPITAL, CHATHAM—The twenty-ninth annual report of the trustees of this charity gives a favourable account of the beneficent work effected during the past year. Regret was expressed that ill health had deprived the institution of the services of Mr A W Nankivell, who for more than twenty-five years had acted as house surgeon. A scheme is in progress, subject to the approval of the Charity Commissioners, providing that five medical practitioners residing in the neighbourhood shall be appointed honorary medical officers of the hospital to take charge of wards.

THE METROPOLITAN HOSPITAL—The annual meeting of this hospital was held on Thursday, March 24th, at the institution in Kingsland road, London, Mr C J Thomas, C C, presiding. The report showed an increase in the number of in-patients from 860 to 887 and of the out-patients from 69,196 to 71,754. The receipts amounted to £7004 and the expenditure to £8885. Through lack of funds the committee had been obliged to close twenty-four of the beds. The chairman, in moving the adoption of the report, earnestly appealed for help and said that the committee felt bound to raise another £4000 in the shape of a charge on the estate.

UNIVERSITY COLLEGE HOSPITAL—Mr Henry Lucas, chairman of the hospital committee, occupied the chair at the annual meeting of the above institution, which was held in the board room on March 24th. In moving the adoption of the report the chairman said that 2799 in-patients had been treated during the year. The percentage of deaths on all operations had fallen from 16.7 in 1875-76 to 7.3 in 1889-90, on major amputations, from 26.7 to 9.0. Last year's debt of £17,000 had been reduced to £6000. Increased accommodation was required, and for this purpose £30,000 would be necessary before rebuilding could be commenced. Of this sum £28,000 had been raised or promised. The report was unanimously adopted.

BEQUESTS AND DONATIONS TO HOSPITALS—The late Mr Charles Ganderton of Pershore bequeathed £7000 to the Worcester Infirmary, and also the residue of his estate after payment of certain legacies. He also bequeathed £500 towards founding a cottage hospital at Pershore. The Secretary of the British Home for Incurables has received a further donation of £250 from Mr Pinder Simpson, thus completing a donation of £500 and founding a pension in connection with the institution, to be known as the Mrs Eliza Holm Pension. The late Mr B M Kenworthy bequeathed £1000 to the Ashton under Lyne Infirmary. Mr Samuel H Burrows late of Broomfield, Sheffield, bequeathed £250 each to the Sheffield General Infirmary, the Sheffield Public Hospital and Dispensary and the Jessop Hospital for Women and £100 to the Children's Hospital. The late Mr William Hodgson bequeathed £500 to the York Lunatic Asylum. Mr Thomson Hankey, late of Portland place, London, bequeathed £100 each to Guy's Hospital, St Thomas's Hospital, the City Dispensary and the Royal Sea Bathing Infirmary, Margate, and £200 to the City of London Truss Society. The late Mr William Leatham Barclay of The Briars, Regent, bequeathed £500 to the North Eastern Hospital for Children, London. The Goldsmiths' Livery Company have made a grant of £200 to the Metropolitan Hospital, Kingsland road. The late Miss Christie of Hill terrace, Arbroath, bequeathed £1000 to the Arbroath Infirmary. Mrs Jane Freeman, late of Southwam, Halifax, bequeathed £500 to the Halifax Infirmary and £100 to the Harrogate Bath Hospital. Mr J M Savage (a trustee of a fund left by Mrs Savage for charitable purposes) has contributed £105 to the New Brighton Convalescent Home. The following legacies have been bequeathed by the late Sir Andrew Barclay Walker of Osmaston Manor, Derbyshire, to the undermentioned Liverpool institutions: Royal Infirmary, £1000, Royal Southern Hospital, £1000, Northern Hospital, £1000, Stanley Hospital, £500, Liverpool Eye and Ear Infirmary, £300, Liverpool Consumption Hospital, £500, Liverpool Infirmary for Children, £500, Liverpool Home for Incurables, £500, and to the Ayr Infirmary for Children, £1000.

ROYAL COLLEGE OF SURGEONS IN IRELAND—FELLOWSHIP EXAMINATION—Mr Edward Leates, L.R.C.P.I. and L.R.C.S.I., having passed the necessary examination, has been admitted a Fellow of the College.

THE ROYAL BRITISH NURSES' ASSOCIATION—On Thursday, March 23rd Dr F Foord Caiger (Medical Superintendent of the Fever Hospital, Stockwell) delivered the first of two lectures on Fevers and Fever Nursing to the members of the above association at 3, Hanover square, W. The lecturer dealt in a practical way with the classification, the symptoms and the periods and means of infection of fevers. The second lecture will be delivered at 20, Hanover square, on April 27th, by Dr Caiger, when he will describe the most approved methods of nursing.

THE METROPOLITAN ASYLUMS BOARD—The fortnightly meeting of this board was held at the offices of the London County Council on March 18th, when Sir Edwin Glasworthy presided. The returns showed that 491 fever patients had been admitted during the fortnight, 75 had died, 660 had been discharged recovered, and 2295 remained under treatment, of whom 1971 were scarlet fever patients, 271 diphtheria, 3 typhus fever and 48 enteric fever patients. These figures showed a decrease as compared with the numbers remaining under treatment in the previous fortnight of 244. In regard to small pox 102 patients had been admitted, seven had died, 59 had been discharged, and 297 remained under treatment, as compared with 171 in the preceding fortnight, an increase of 36. Mr Augustus Scovell presented the report of the Ambulance Committee, which stated that small pox was spreading in the metropolis in every direction, chiefly through the influence of tramps and men out of work. The number of patients the board had received was composed almost entirely of adults, and there was no doubt that the spread of the disease was due in no slight degree to the insanitary state of some of the shelters and the absence of any stringent medical supervision. On the recommendation of the General Purposes Committee, it was decided to add the small pox hospital ships to the list of hospitals available for purposes of medical instruction.

NOTES IN PARLIAMENT

The Merchant Shipping Act

THE rules for the inspection of provisions and water under the Merchant Shipping Act 1892, are calculated to be of great service to our vast seafaring population. They are to apply to all ships leaving the United Kingdom and passing through the Suez Canal or round the Cape. The Inspector is appointed by the Board of Trade. All stores named in the Act as also water are subject to inspection. The inspection is to take place alongside the ship on shipboard, or elsewhere as determined by the authorities. All surplus stores and contents of casks are to be inspected under the same conditions as the original inspection. Passed stores need not be reinspected if the inspector be satisfied. This official must receive notice of a desired inspection forty-eight hours at least before a specified time. Firms supplying stores for shipment coastwise before leaving the kingdom may notify the Inspector under the same conditions as those required of the ships officer or agent. A complete list must be supplied for inspection. The hours during which an inspection may be made are from 10 A.M. till 5 P.M. and if matters are not ready at the specified time the inspection must be deferred. Requirements are specified as to the condition and carriage of beef, pork and preserved meat and vegetables. The Inspector has power to open tins containing provisions. The constitution and storage of biscuits are also dealt with, and the Inspector has power to go on board at any time and, if he find aught amiss to detain the ship until matters are remedied to his satisfaction. Water tanks must be cleaned before being filled afresh. Defective stores are to be landed. The certificate is to be granted at the final port of departure if the Inspector is satisfied on all points.

Haslar Hospital.

In the House of Commons on Thursday Mr Macfarlane asked the Secretary to the Admiralty if he was aware that medical officers at Haslar Hospital were not permitted to administer anaesthetics without leave from headquarters in London, whether the medical staff of the navy was short of its full complement of officers, and why if that were so there was no examination for new candidates in February. Mr Edmund Robertson who replied on behalf of the Secretary, stated that the medical officers at Haslar as at all other naval hospitals were permitted to administer anaesthetics whenever they considered it necessary to do so and they were under no obligation to refer to the Medical Department in London nor was there any record of such an application having been made. The medical staff of the navy was only three short of the full number in the estimates. Examinations were not now held in February, but in May and November as required.

Notes, Short Comments & Answers to Correspondents.

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Oaths Act 1888

Section 5—If any person to whom an oath is administered desires to swear with uplifted hand in the form and manner in which an oath is usually administered in Scotland, he shall be permitted so to do, and the oath shall be administered to him in such form and manner without further question."

I am, Sirs yours truly
Kendal, March 21st, 1893.

MUSGRAVE CRATON

* We insert our correspondent's letter although we have repeatedly published Section 5 of the Oaths Act, 1888.—ED. L.

THE EFFECT OF CHANGE ON THE JADED LONDONER.

A PRACTITIONER sends us the following account which he has received from a patient who had from overwork and confinement in doors become seriously impaired in health, and whose appetite had completely gone. He gives it as an illustration of the immediate effect of change of environment, mode of life, meals and society upon the Jaded Londoner. In some places this effect is very marked notably at the seaside resorts on the east and south coasts. He writes: "Struck on former occasions with the effect of complete change I advised my patient to eat whatever he fancied and asked him to note the items of his diet on a piece of paper. The patient wrote that the following was the dietary of the first day: 'At eight o'clock I had one boiled egg, two biscuits and one cup of tea served in bed. After an hour's walk along the seashore I returned at ten to breakfast. It consisted of one fish, one boiled egg and a rash of bacon, one cup of coffee and a roll and butter, all of which I ate with pleasure. This was followed by a walk along the shore till twelve o'clock, when I had a bottle of stout, two biscuits and a piece of cheese. A brief ride on a bicycle made me wish for something cooling and at one o'clock I had a glass of Scotch whisky with lime juice and ate two bananas. I drove home to dinner and at half past two I was able to consume the following with much relish: A plate of mock turtle soup, one roll and a glass of sherry half a chicken, potatoes and cabbage, with one glass of burgundy and a piece of Gorgonzola cheese. I engaged an open boat for the afternoon and at five o'clock returned to a cup of tea and a bath bun. After enjoying myself with pleasant company, I returned to my hotel to partake of a piece of fricasseed rabbit, a piece of cheese and a glass of whisky toddy, before retiring to rest. I was much surprised at my own endurance, and in the evening I experienced a feeling of repose and content to which I had long been a stranger. This account does not include sweets, apples and oranges which were consumed during the day.' The improvement wrought by so brief a sojourn is hardly likely to be prolonged but as a restorative many can endorse the writer's experience of change of air."

Ialobe.—The cases in which excision would be justifiable are very few if any. The probability of nerve disturbance is so great that failure of perfect bony union might be met with. 'Perfect general health is very rarely if indeed ever, found in association with crippling osteoarthritis. It is also seriously open to doubt how far it is true that the disease ever becomes latent. The case would have to be a very special one to render the operation justifiable. The operation has been performed.

CHLORIDE OF ETHYL.

To the Editors of THE LANCET

SIRS,—I should like to know if in your opinion chloride of ethyl is the best local anesthetic for the extraction of teeth stumps? How should it be used? Is there any danger to apprehend from using it in the mouth? Thanking you in anticipation,

I remain, Sirs, yours sincerely, DENS.

March 24th, 1893

* Chloride of ethyl has been very popular amongst dentists as a local anesthetic since its introduction a year or two ago. It is well to place a piece of lint over the gum before applying it. We have heard of no bad effects following its use.—ED. L.

"PREPARING FOR THE INTERNATIONAL MEDICAL CONGRESS."

SEVERAL correspondents have asked us for suggestions as to books by which a working knowledge of the Italian language on the methods of Lock and Milton, might be obtained. To these correspondents we have already replied but a work has just come under our notice to which we would like to draw our correspondents' attention as affording an excellent means of continuing their studies on the lines referred to. This is the 'Purgatory of Dante, a new translation by Charles Lancelot Shadwell M.A., B.C.L. published by Macmillan and Co., London. The work is described as an experiment in literal verse translation, and contains the Italian text with a translation on the opposite page.

D. T. R.—We are of opinion that as the works were new and the employers a new firm who wrote impartially to A., B. and C. each of the three practitioners was at liberty to make application for the office, and that in doing so he did not lay himself open to the charge of being grasping."

Dr W. H. Hewlett.—Our correspondent is warmly thanked for directing attention to what is evidently a *lapsus oculorum*.

"CANCER PLASTERS"—ERRATUM

To the Editors of THE LANCET

SIRS—In the letter you publish on the above subject in your last issue (March 25th p. 652) there is a misprint which rather misleads. In Case 1 second column fourth line, 'Some ivory plasters' should be 'Some seventeen plasters.' I am Sirs yours faithfully,
County Hospital, Durham, March 25th 1893. SELBY W. PLUMMER.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria park E - Pathologist Salary 100 guineas per annum Apply to the Secretary at the Office, 24 Finsbury-circus E.C.
COUNTY ASYLUM, Rainhill - Assistant Medical Officer (unmarried) Salary to commence at £100 a year, with prospect of an increase at the end of the first year Furnished apartments, board and attendance provided
COUNTY ASYLUMS, Gloucester - Third Assistant Medical Officer Salary £105 per annum, with board, lodging and washing, but no intoxicants
CUMBERLAND INFIRMARY Carlisle. - Assistant House Surgeon, for one year Salary £40 per annum, with board, lodging and washing
DENTAL HOSPITAL OF LONDON, Leicester square - Assistant Anesthetist
EAST LONDON HOSPITAL FOR CHILDREN, Glamis road, Shadwell, E. - House Physician Board and lodging provided
GENERAL INFIRMARY AT GLOUCESTER AND THE GLOUCESTERSHIRE EYE INSTITUTION - House Surgeon Salary £100 per annum, with board, lodging and washing
HASTINGS ST. LEONARDS AND EAST SUSSEX HOSPITAL, Hastings - Honorary Assistant Surgeon
HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton. - House Physicians.
LIVERPOOL STANLEY HOSPITAL. - Assistant Honorary Physician
MILLER HOSPITAL AND ROYAL KENT DISPENSARY Greenwich road S.E. - Junior Resident Medical Officer, for twelve months. Salary £30 per annum with board, attendance and washing
POPULAR AND STEPHEN SICK ASYLUM DISTRICT - Assistant Medical Officer for the Asylum at Bromley, Middlesex E Salary £130 per annum with rations, furnished apartments and washing Apply to the Clerk to the Managers Bromley Middlesex, E
ROTHERHAM HOSPITAL AND DISPENSARY - Assistant House Surgeon, for six months. Rooms, commons and washing provided in the hospital.
ST BARTHOLOMEW'S HOSPITAL, London - Physician
WEST NORFOLK AND LYNN HOSPITAL Lynn - House Surgeon and Secretary Salary £80 per annum, rising to £100

Births, Marriages and Deaths.

BIRTHS

BRYSON - On March 27th, at Hill Lodge, Harrow, the wife of Leonard H Bryson, M.D. of a daughter
CALVERT - On March 25th at Queen Anne street W, the wife of Jas Calvert M.D. of a son
DRAKE BROCKMAN - On March 28th at Ealing the wife of Brigade Surgeon Lieutenant-Colonel E. F. Drake Brockman F.R.C.S. Indian Medical Service of a daughter
HALES - On March 22nd, at Holt, Norfolk, the wife of R. T. Hales, M.D. of a daughter
LEES - On March 19th at Bass House Foregate-street, Chester, the wife of William Lees M.R.C.S. of a son
PERRY - On March 22nd at the Superintendent's House Guys Hospital, the wife of E. C. Perry, M.A. M.D. of a daughter
THOMAS - On March 27th at Swaffham the wife of Augustus William Thomas, L.R.C.P.S. Edin., of a daughter

MARRIAGES

BREESE-LEIGH - On March 25th, at St. Michael's Church Headingley Leeds, Frederick Breeze L.D. Eng. of Kennington park road to Hannah Letitia (Lettie) eldest daughter of Walter T. Leigh, of Brookfield terrace Headingley Leeds
GOODALL-MACKENZIE - On March 25th at Christ Church Barton hill Bristol for the Rev F. Billett brother in law of the bride Edwd Wilberforce Goodhall M.D. Lond to Kate Ellen Mackenzie
WILLIAMS-WOODWARD - On March 21st, at Emmanuel Church, West Dulwich, by the Rev Dr Roe Vicar and the Rev S. P. G. Property, of Fulham G. Chisholm W. Williams M.R.C.S., L.R.C.P., L.S.A. of Dunstons Brockley S.E., to Amy Hannah elder daughter of the late James Woodward, Esq., of Camberwell.

DEATHS

HOPE - On March 27th, at Curzon street, Mayfair, William Hope, M.D.
JONES - On March 24th, at Court House Tonypandy Glamorganshire, Charles John Jones M.R.C.S. E., L.R.C.P. L. and J. P., aged 63
MCDOWALL - On March 20th at the Darham County Hospital suddenly Thomas Henry aged 16 eldest son of J. W. McDowall M.D. Northumberland County Asylum Morpeth
MASTERMAN - On March 20th at York House Stourport, Worcester, George Frederick Cadogan Masterman M.D. aged 60
WEBSTER - On March 20th Thomas Webster, M.R.C.S. and L.M. of Hogarth road Carl's court London.
YATES - On March 26th at Bolton, Peter Yates, M.D., C.M. Edin., aged 51

N.B. - A fee of 5s. is charged for the insertion of Notices of Births, Marriages and Deaths

METEOROLOGICAL READINGS

(Taken daily at 8.30 a.m. by Steward's Instruments)

THE LANCET Office, March 29th, 1893.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radiation in Vacuum.	Maximum Temp. Shade.	Min. Temp.	Rain-fall.	Remarks at 8.30 A.M.
Mar 28	30.29	S.E.	40	39	60	52	38	—	Foggy
" 24	30.38	S.E.	45	43	95	63	39	—	Foggy
" 25	30.46	S.E.	45	42	99	63	40	—	Foggy
" 26	30.41	E.	46	43	82	58	39	—	Hazy
" 27	30.13	E.	41	39	87	58	37	—	Hazy
" 28	30.15	E.	45	42	100	59	40	—	Bright
" 29	30.10	S.E.	45	42	98	63	40	—	Hazy

Medical Diary for the ensuing Week.

Monday, April 3.

KING'S COLLEGE HOSPITAL. - Operations, 2 P.M., Fridays and Saturdays, at the same hour
ST BARTHOLOMEW'S HOSPITAL. - Operations, 1.30 P.M., and on Tuesday, Wednesday, Friday, and Saturday at the same hour
ST MARK'S HOSPITAL. - Operations 2 P.M., Tuesday, 2.30 P.M.
ST THOMAS'S HOSPITAL. - Ophthalmic Operations 2.30 P.M., Friday 2 P.M.
ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS - Operations, daily at 10 A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL. - Operations, 1.30 P.M., and each day at the same hour
CHELSEA HOSPITAL FOR WOMEN. - Operations 2 P.M., Thursday 2 P.M.
HOSPITAL FOR WOMEN, SOHO-SQUARE. - Operations, 2 P.M., and on Thursday at the same hour
METROPOLITAN FREE HOSPITAL. - Operations 2 P.M.
ROYAL ORTHOPEDIC HOSPITAL. - Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL. - Operations, 2 P.M., and each day in the week at the same hour
UNIVERSITY COLLEGE HOSPITAL. - Ear and Throat Department, 9 A.M., Thursday, 9 A.M. Eye Department, 2 P.M.

Tuesday, April 4

GUY'S HOSPITAL. - Operations, 1.30 P.M., and on Friday at the same hour
 Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.
CANCER HOSPITAL, BROMPTON. - Operations, 2 P.M., Saturday, 2 P.M.
WESTMINSTER HOSPITAL. - Operations 2 P.M.
WEST LONDON HOSPITAL. - Operations 2.30 P.M.
UNIVERSITY COLLEGE HOSPITAL. - Skin Department 1.45, Saturday, 9.15
ST MARY'S HOSPITAL. - Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 2.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electrotherapeutics, same day, 2 P.M.

Wednesday, April 5

NATIONAL ORTHOPEDIC HOSPITAL. - Operations 10 A.M.
MIDDLESEX HOSPITAL. - Operations, 1.30 P.M., Saturdays 2 P.M. Obstetrical Operations Thursdays, 2 P.M.
CHARING CROSS HOSPITAL. - Operations, 3 P.M., and on Thursday and Friday at the same hour
ST THOMAS'S HOSPITAL. - Operations 1.30 P.M., Saturday same hour
LONDON HOSPITAL. - Operations, 2 P.M., Thursday and Saturday, same hour
ST PETER'S HOSPITAL, COVENT GARDEN. - Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN. - Operations, 2.30 P.M.
GREAT NORTHERN CENTRAL HOSPITAL. - Operations 2 P.M.
UNIVERSITY COLLEGE HOSPITAL. - Operations, 1.30 P.M. Dental Department 9.30 A.M. Eye Department 2 P.M.
ROYAL FREE HOSPITAL. - Operations 2 P.M. and on Saturday
CHILDREN'S HOSPITAL, GREAT ORMOND STREET. - Operations, 9.30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.
OBSTETRICAL SOCIETY OF LONDON. - 8 P.M. Specimens will be shown by Dr. Henfry and others. Dr. Cullingworth. Case of Extra uterine Gestation in which the foetal movements ceased at the end of the eighth month. Abdominal Section was performed four weeks later. Dr. John Phillips. Case of Extra uterine Gestation in which foetal death probably occurred at the end of the sixth month, and Abdominal Section was performed two months and a half later. - Dr. E. Sinclair Stevenson. Three cases of Ectopic Gestation.

Thursday, April 6.

ST GEORGE'S HOSPITAL. - Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations Friday, 1.30 P.M.
UNIVERSITY COLLEGE HOSPITAL. - Operations 2 P.M. Ear and Throat Department, 9 A.M. Eye Department, 2 P.M.
HARVEIAN SOCIETY. - 8.30 P.M. Clinical Evening. Cases will be shown by Dr. Sidney Phillips, Mr. Crowle, Mr. Juler, Mr. Atwood Thorne, Mr. J. L. Morton and others.

Friday, April 7

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL. - Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL. - Eye Department, 2 P.M.
CANCER HOSPITAL (Fulham road S.W.). - 4 P.M. Mr. W. H. Eam. Epithelioma of the Tongue
WEST LONDON MEDICO CHIRURGICAL SOCIETY (West London Hospital). - 8.30 P.M. Pathological Specimens by Mr. H. Percy Dinn. Mr. C. B. Keetley. Spinal Abscess and Paralysis due to Spinal Diseases and Injuries. - Dr. C. W. Chapman. Short Notes of a case of Primary Carcinoma of Kidney. - Mr. J. R. Lunn. Short Notes on two cases of Obscure Renal Disease.

Saturday, April 8.

UNIVERSITY COLLEGE HOSPITAL. - Operations, 2 P.M., and Skin Department 9.15 A.M.

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* We insert our correspondent's letter, although we have repeatedly published Section 5 of the Oaths Act, 1833.—ED L.

THE EFFECT OF CHANGE ON THE JADED LONDONER.

A PRACTITIONER sends us the following account which he has received from a patient who had from overwork and confinement in doors become seriously impaired in health, and whose appetite had completely gone. He gives it as an illustration of the immediate effect of change of environment mode of life meals and society upon the jaded Londoner. In some places this effect is very marked, notably at the sea-side resorts on the east and south coasts. He writes. Struck on former occasions with the effect of complete change, I advised my patient to eat whatever he fancied and asked him to note the items of his diet on a piece of paper. The patient wrote that the following was the dietary of the first day. At eight o'clock I had one boiled egg, two biscuits and one cup of tea served in bed. After an hour's walk along the seashore I returned at ten to breakfast. It consisted of one fish one boiled egg and a rash of bacon, one cup of coffee and a roll and butter, all of which I ate with pleasure. This was followed by a walk along the shore till twelve o'clock, when I had a bottle of stout, two biscuits and a piece of cheese. A brief ride on a bicycle made me wish for something cooling and at one o'clock I had a glass of Scotch whisky with lime juice and ate two bananas. I drove home to dinner, and at half past two I was able to consume the following with much relish. A plate of mock turtle soup, one roll and a glass of sherry, half a chicken, potatoes and cabbage, with one glass of burgundy and a piece of Gorgonzola cheese. I engaged an open boat for the afternoon and at five o'clock returned to a cup of tea and a bath bun. After enjoying myself with pleasant company, I returned to my hotel to partake of a piece of fricasseed rabbit, a piece of cheese and a glass of whisky toddy, before retiring to rest. I was much surprised at my own endurance, and in the evening I experienced a feeling of repose and content to which I had long been a stranger. This account does not include sweets, apples and oranges which were consumed during the day. The improvement wrought by so brief a sojourn is hardly likely to be prolonged but as a restorative many can endorse the writer's experience of change of air.

Iakob.—The cases in which excision would be justifiable are very few if any. The probability of nerve disturbance is so great that failure of perfect bony union might be met with. 'Perfect general health is very rarely if indeed ever, found in association with crippling osteoarthritis. It is also seriously open to doubt how far it is true that the disease ever becomes latent. The case would have to be a very special one to render the operation justifiable. The operation has been performed.

CHLORIDE OF ETHYL

To the Editors of THE LANCET

SIRS—I should like to know if in your opinion chloride of ethyl is the best local anesthetic for the extraction of teeth stumps? How should it be used? Is there any danger to apprehend from using it in the mouth? Thanking you in anticipation,

I remain, Sirs, yours sincerely,

March 24th, 1893

DENS.

* Chloride of ethyl has been very popular amongst dentists as a local anesthetic since its introduction a year or two ago. It is well to place a piece of lint over the gum before applying it. We have heard of no bad effects following its use.—ED L.

'PREPARING FOR THE INTERNATIONAL MEDICAL CONGRESS.'

SEVERAL correspondents have asked us for suggestions as to books by which a working knowledge of the Italian language on the methods of Lock and Milton, might be obtained. To these correspondents we have already replied but a work has just come under our notice to which we would like to draw our correspondents attention as affording an excellent means of continuing their studies on the lines referred to. This is the 'Purgatory' of Dante a new translation by Charles Lancelotti Shadwell, M.A. B.C.L. published by Macmillan and Co., London. The work is described as an experiment in literal verse translation, and contains the Italian text with a translation on the opposite page.

D T R.—We are of opinion that as the works were new and the employers a new firm who wrote impartially to A., B. and C. each of the three practitioners was at liberty to make application for the office, and that in doing so he did not lay himself open to the charge of being grasping.

Dr W H Heulett.—Our correspondent is warmly thanked for directing attention to what is evidently a *lapsus oculorum*.

'CANCER PLASTERS'—ERRATUM.

To the Editors of THE LANCET

SIRS—In the letter you publish on the above subject in your last issue (March 25th p 632) there is a misprint which rather misleads. In Case I, second column fourth line. Some ivy plasters should be 'Some seventeen plasters.' I am Sirs yours faithfully,
County Hospital, Durham, March 28th, 1893. SELBY W PLUMMER.

Communications, Letters &c. have been received from—

- A.—Dr P H. Abercrombie Vienna,
Dr F P Atkinson, Surbiton.
- B.—Dr Clifford Beale London Dr
W H. Beaumont Bath, Dr C
Bage Melbourne, Dr Bourke,
Earls-court Dr J D Burch,
Texas, U.S.A., Dr Bampton
Brookfield Mr Henry Blandy,
Northampton, Mr W H Biggs,
London, Messrs. Burroughs,
Wellcome and Co, London,
Messrs. Blondeau et Cie., London,
Bolton Chronicle.
- C.—Dr F G Clemow Earls Court-
square, Dr H. E. Crook, Mar-
gate, Prof. M. Charteris, Glas-
gow, Dr T Churton, Leeds,
Dr Carey Coombs, Somerset,
Mr W J Cant, Lincoln Mr J
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hampton Messrs. Cassell and
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- D.—Dr A Crosby Dixey, Sidcup
Dr A Davies London Messrs.
Douglas and Foulis, Edinburgh
D T R., D P H., London,
Dens
- E.—Dr T A. Elkins, Edinburgh,
Excellent, London.
- F.—Dr E. M. Farrer India,
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London Messrs A. Faber and
Co, London.
- G.—Mr J Gibson London Mr
James Griffin Bombay Mr G
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- J.—Dr J Jamieson, Glasgow, Dr
Sophia Jex Blake Glasgow
- K.—Dr T Knowles, Gargrave,
Mr C B Keetly, Glasgow
- L.—Dr J F Little, London Surg
Lt. Col. Lawrie Hyderabad,
Liverpool Stanley Hospital.
- M.—Dr Henry Monckton, London,
Dr T Thornton Macklin, Isles of
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London, Mr G Michelmore,
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bourne-park Signor P Ma roni,
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- O.—Dr W Wallis Ord London,
Messrs. Oliver and Boyd, Edin-
burgh.
- P.—Dr H. A. Perkins Torquay,
Dr Selby W Plummer, Dublin
Mr F H. Prater Holborn.
- R.—Dr A M Ramsay, Glasgow, Dr
J W Rodgers London, Messrs.
Reynell and Son London *Revue
des Sciences Médicales, Paris*.
- S.—Mr J Bland Sutton London
Dr W C. Sharpe Matlock Dr
T Smith Dumfries Mr Morton
Smale London Mr Graver Scott,
Manchester Mr F W Stoddart,
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- V.—Mr J W Vickers London

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Wright and Co, Bristol Messrs
Whitworth and Stuart, Man-
chester, Messrs. Willows, Francis
and Co, London, W, London.

Y.—Yorkshire College, Leeds.

Letters, each with enclosure, are also acknowledged from—

- A.—Mr R. E Archer, Oldham
A. F. T., Bournemouth, *Æscu-
lapius Bristol*, A. B. C London,
82, Alvey street, Old Kent-road.
- B.—Mr J E Brandt, Paris Mr
W S Batties, London Messrs.
Briscoe and Jones Alton.
- C.—Mr G G Clarke, Morpeth,
Mr J Cochrane Greenock Mr
N H Coombs, Bedford, Mr P
Childs, Pendeen Mrs Choat,
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Country, London.
- D.—Mrs. Danby, Lincoln.
- F.—Mr H. J Forster, Chatham,
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- G.—Mr C. N Goodall Streatham
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- H.—Mr J J Hanbury Water
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Water lane Mr J Hale Chester
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ypyl, Mr J A. Hughes Holy
well Mr G J Hines, Colchester,
Hereford, London
- J.—Mr T Johnson Somersham
Mr J Johnson, Leicester, J H,
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- L.—Mr Lawrence, Rugby, Mr A
Leishman Prestbury, Madam
S Lavroff, London.
- M.—Medicus, Bristol, Manitoba,
London, M.D., Liverpool.
- N.—Mr W R Nicholson, York.
- O.—Mr O M O'Brien, Bowes-park.
- P.—Dr Parry, Bridgend, Price's
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Blaenavon Sigms, London St.
John's Ambulance Association,
St. Mungo's College, Glasgow
- T.—Mr Tyte Minchinhampton,
Miss L. Tiewby Slind, Tus
Brook Asylum Liverpool.
- U.—Upton lane, Forest gate.
- W.—Mr T Wood, Leicester, Mr.
G C W Williams, Brockley, Mr
H T Waters, Coventry, West
Norfolk and Lynn Hospital.
- X.—X., Poole

During the week marked copies of the following newspapers have been received —*Warrington Guardian, Banbury Telegraph, Lincolnshire Chronicle Lancashire Daily Post, Cambrian (Swansea), Stirling Saturday Observer, Leicester Advertiser, Birkenhead News, Morning Post (Allahabad), Larne Reporter, Madras Times, Truth, Leeds Mercury, Acton Gazette, Llancollen Advertiser, Evening Post (New York), Blackburn Daily Telegraph, Guardian Bristol Mercury, Yorkshire Post Weekly Free Press and Aberdeen Herald, Daily Post shire Mercury, Local Government Chronicle, Liverpool Daily Post, Local Government Journal, Guy's Hospital Gazette, Cambridge Express, Norfolk News, Gloucester Citizen Civil and Military Gazette, Le Temps (Paris), Citizen, Kendal Mercury, Australian Medical Journal, Oban Express, Australian Medical Gazette, Lowestoft Weekly Press, Surrey Mirror, Manx Sun, West Middlesex Standard.*

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REPORT OF THE LANCET COMMISSION

APPOINTED TO INVESTIGATE THE SUBJECT OF THE

ADMINISTRATION OF CHLOROFORM

AND OTHER ANÆSTHETICS

FROM A CLINICAL STANDPOINT

In continuing the publication of the tables of cases which we commenced last week, a few points arise which need passing notice. In the first series of cases which we have described as based upon the list drawn up by the committee of the Royal Medical and Chirurgical Society many fresh cases appear so that our list must not be taken as a mere excerptum of the Transactions of that Society. In the cases which appear in the Transactions many salient facts were not given in the very condensed accounts which the Society published, and these we have been able in some instances to supplement from journals or other published records, thus presenting the cases in a more complete form. We have been unable to append a column containing the name of the administrator and this omission, grave as it may appear, is due to the fact that in a very large number of instances no mention at all is made of the actual administrator or of the experience he may have had in administering the drug. In some cases where mention is made of the person giving the chloroform we find that he was not a medical man at all, thus, in one instance, the master of a workhouse is described as having officiated. In several other cases dentists not holding medical diplomas are reported as having given their patients chloroform. We hope to allude to these cases subsequently. A careful examination of them is peculiarly instructive, as they appear to support the view which some observers have advanced that there is an especial danger of fatalities occurring when the patients are only partially under the influence of chloroform. Again it is noted in most, if not all, of these cases that the patient was placed in a sitting posture in a dentist's chair—a position which some hold to be peculiarly unsuitable to the safe exhibition of chloroform. Many instances occurred in which, whilst comparatively trifling operations were being performed, a fatal accident occurred, and in these, again, we find mention made, or the narrative seems to suggest that the amount of chloroform inhaled was small—probably quite insufficient to ensure complete anaesthesia. The possible occurrence of shock under these conditions requires to be considered. In one case a medical man, previously to a very minor operation, held the towel saturated with chloroform over his face with his own hands—a proceeding we need hardly say, fraught with the utmost danger, especially as in this instance it was found that the stomach was distended with undigested food. A fact worthy of notice is that in comparatively few cases, unless occurring within the precincts of a hospital is any mention made of a second medical man having been present to assist in the administration of the anæsthetic or the performance of the operation. This omission no doubt in some instances is due to force of circumstance, but can hardly be so in all. It would indeed seem as if in some of the cases but few if any, precautions or preparations were made before the chloroform was administered. It certainly would appear that a proportion of these deaths was preventable—that is, in the sense that various obvious dangers were not avoided and that various conditions tending to enhance the danger incurred were overlooked or ignored. Amongst the most conspicuous

are posture, to which we have referred above, in dealing with the dental cases and the above cited instance with others of food given just before the use of the anæsthetic. Yet another reflection occurs when we deal with the chemical purity of the chloroform employed. In some instances actual published statements appeared asserting that the chloroform employed was impure and had undergone partial decomposition giving rise to cough, dyspnoea and finally to suffocation. It is well known that such changes pretty rapidly develop when chloroform is exposed to diffused daylight, especially if kept in a warm room. It is probable that most or all of the chloroform sold by the wholesale makers is sufficiently pure to be free from deleterious matter, and that whatever impurity does appear does so after the chloroform has passed into the hands of the person who administers it.

Another point of great interest occurs in connexion with the evidence afforded by the post-mortem examinations. We published in the first portion of our report descriptions of necropsies in a tabular form, and in the lists which we are now reviewing fuller particulars are presented in Column 8. Unfortunately the examinations are of little value as a guide to what changes, if any, are actually brought about by the chloroform itself, because in by far the majority of instances they were not made until twenty-four hours or even longer after decease. They, however, emphasise the frequency of the association of certain lesions with fatalities under chloroform. In comparing Columns 8 and 9 discrepancies will be detected in that, whilst the examination of the patient's respiratory and circulatory organs during life and before chloroform was given went to show that the patient was organically sound, the necropsy told another tale. There is no doubt that if a preliminary physical examination of a patient is made—and as to the advisability of this step it is beside our present purpose to inquire—it should be carried out as thoroughly and minutely as would be done were the individual to submit himself for a diagnosis upon some malady from which he was suffering. In not a few cases when the patient was described as "healthy," further inquiry elicited the fact that organic disease existed, but the general appearance of the patient was healthy.

Column 7 in which we deal with the symptoms, when considered in conjunction with Column 6 shows that in a large proportion of cases some note—at times fairly full—was kept of the state of respiration and of the pulse. It would seem from these records that it is a common practice amongst surgeons to devote attention to both systems and to adopt resuscitative measures promptly on the appearance of apnoeal phenomena. In many of the cases it will be noted that mention is made of a renewal of the inhalation, but this is not sufficiently specifically stated for us to do more than draw attention to what may be a clue towards finding an explanation of some of the deaths. We shall return both to this point and to the question of the observation of respiration when we consider the cases which we have classed as "untoward cases."

DEATHS UNDER CHLOROFORM
CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (*continued*)

1 Reference.	2 Age.	3 Sex.	4 Operation and duration of administration.	5 Method of administration.	6 P or R.	7 Symptoms occurring under anæsthetic.	8 Assigned cause of death.	9 Remarks.
99	38	M	For hemorrhoids with external strangulation of prolapsed rectum.	Napkin. 2 dr		Face somewhat livid, but P and R. good, so operation about to be begun. Turned on right side ceased breathing. P both at wrist and carotids imperceptible face dark livid. Placed on back, head lowered, cold affusions caused four long full aspirations, but no return of circulation. Artificial R. withdrawing tongue and elevating epiglottis.	"From sudden spasmodic contraction of heart, continuing till life extinct, this being effect of CHCl ₃ on ganglionic nervous system." P M Venous congestion of brain, choroid plexus congested	
100		M	For diseased bone in leg (3 minutes)		P	Had not inhaled more than 3 minutes when P ceased and death ensued.	Paralysis of heart. Death attributed largely to effect of fear	Heart and lungs were carefully examined before administration was nervous about taking CHCl ₃ .
101	40	M	Amputation of thigh for inflammation of knee joint.	Towel.	P & R	Operation performed, breathing good, P strong. In 3 or 4 minutes teeth became clenched R. stertorous, 1 small, skin with clammy perspiration. Measures adopted were forcing open jaws drawing out tongue, artificial R. stimulants, but patient died 10 minutes after first alarming symptoms.	P M. All organs healthy but pale from want of blood. Diseased joint examined synovial membrane converted into gelatinous mass. Heads of tibia and fibula completely destroyed and bones roughened.	
102	33	F	Extraction of stumps of teeth.			After 8 or 9 teeth had been removed livid expression came over patient's face and she seemed sinking. All usual means used for resuscitation—such as galvanism, stimulants, artificial R, &c	Death from a state of brain induced by inhalation of chloroform, in reference to which more than usual precautions had been taken	
103	52	F					1 M Disease of heart chloroform."	
104	52	F	For applying nitric acid to wounds of tumours on knee.	Skinner's inhaler 2 dr		Patient died instantly without warning immediately after muscular action. Measures resorted to were artificial R. (Marshall Hall's method, and Sylvester's method) and galvanism. The last caused diaphragm to act twice with 2 inspirations but no further signs of life returned.	? Syncope. No P M allowed.	Patient was suffering from a tumour on each knee the size of an orange, originally inflamed burse.
105	50	M	Castration (3 to 4 minutes)	On lint 15 to 20 drops.	P	After the first dose of 20 drops had been given and another was about to be administered P ceased. Restorative measures instantly resorted to were—Ammonia, electricity Sylvester's method of artificial R., 1 phlebotomy on elbow (from which 1 oz. dark red blood flowed). Meanwhile hypostatic congestion set up along back and sides.	Syncope. P M Fluid black blood from preliminary incision and from vessels of brain. Dura mater adherent to calvaria and pia mater, and arachnoid of opaque white colour. Heart little larger than usual, with little more fat than normal and little fluid blood of dark red colour in chambers. Action of chloroform on weak heart. ? Syncope. P M. Enlarged heart with thin muscular walls "Paralysis of heart" (probably).	
106		M		Handkerchief 2 dr	P.	P suddenly subsided, extreme pallor. Patient was given sherry, and other means adopted.	Action of chloroform on weak heart. ? Syncope. P M. Enlarged heart with thin muscular walls "Paralysis of heart" (probably).	Nothing before administration to contra-indicate use of chloroform.
107	30	M	Amputation of portion of hand.		P & R	After 6 inspirations breathing became difficult and stertorous. P ceased. Artificial R and other means tried, but death shortly took place.		
108	40	M	Reduction of dislocation of head of humerus	Sponge.		Immediately the dislocation was reduced face became livid and death took place. All means employed for resuscitation.	? Asphyxia. Patient was reported by his physician to have died of apoplexy. ? Syncope.	
109	12	M	Reduction of dislocation of hip (20 minutes)	Handkerchief. 2 dr	P	During operation P failed and patient died at once		

DEATHS UNDER CHLOROFORM
CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (*continued*)

1	2	3	4	5	6	7	8	9
Incidence.	Age	Sex	Operation and duration of administration.	Method of administration.	P or R	Symptoms occurring under anæsthetic.	Assigned cause of death.	Remarks
110		F	Extraction of teeth.		R.	When extraction of teeth over, patient stopped breathing was laid on floor and artificial R. tried with no avail.	? Syncope	Sitting posture. Had already taken CHCl_3 twice at the same sitting
111			Amputation of leg			Patient died about a minute after CHCl_3 had been given.		
112		F	Extraction of teeth.		P	"After extraction of teeth patient went into spasm or convulsion and limbs became rigid. Was placed on lounge reclining, whole muscular system relaxed. P ceased and after gasping a few times suddenly died. Diligent but unsuccessful attempts at resuscitation.	? "Nervous shock or CHCl_3 or both combined.	Sitting posture. Patient was advised to do without CHCl_3 but insisted upon CHCl_3 or other being given.
113	35	M	Amputation of finger	Quantity small.			P M Heart: right auricle fatty? Spleen ruptured and blood in peritoneum.	Patient very nervous. Usual precautions taken, and heart found normal but if fatty degeneration as stated by medical witness careful examination would have detected it. Death might have happened from impure CHCl_3 . The reporter insists that it would have been discovered whether impure CHCl_3 caused the death, by application of the acid test.
114		F	For relief of prolapsus uteri.				P M Nil, except slightly flabby heart	Death might have happened from impure CHCl_3 . The reporter insists that it could have been discovered whether impure CHCl_3 caused the death, by application of the acid test.
115							P M Heart diseased but no particulars given.	
116	?	?		Lint cone.	P	P stopped suddenly and all efforts to restore animation unavailing	P M appearances nil except large and flabby heart	CHCl_3 pure.
117	32	F	Removal of malignant fungoid growths from gums and lower jaw by galvanic cautery (15 minutes)	Skinner's flannel mask.	P	On the third introduction of the heated wire patient instantaneously expired. Battery at work applied to chest mouth to mouth insufflation and Silvester's method tried with no effect.	Syncope probably secondary to mechanical interference with respiration. P M Large goitre on neck bloody mucus o cupying larynx and trachea heart cavities all empty lungs pallid and emphysematous.	Anæmic.
118		M	For caries of ankle joint preparing for amputation	Folded towel	P & R.	One minute after first inspiration convulsive movement of extremities CHCl_3 removed, head declined. After 4 or 5 convulsive inspirations ceased breathing face livid pupils dilated; eyes and jaws open heart's action maintained for 40 minutes.	? Syncope.	
119		M	For hæmorrhoids.			When everything ready for operation patient died.	? Syncope P.M. Heart exceedingly fatty Liver far advanced in cirrhosis. Spleen with multiple abscesses	Had been suffering from variety of symptoms referable to intemperate habits
120		M	On wrist.					Had on two recent occasions undergone same treatment.

DEATHS UNDER CHLOROFORM
CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (*continued*)

1 Reference.	2 Age.	3 Sex.	4 Operation and duration of administration.	5 Method of administration.	6 P or R.	7 Symptoms occurring under anæsthetic.	8 Assigned cause of death.	9 Remarks.
121	30	M	For diseased bone	On lint. 1 dr		When only partially under influence of anæsthetic, death suddenly took place. Every means for resuscitation used with out avail. Tongue drawn forward artificial R galvanic battery over heart and neck and diaphragm. Artificial R for $\frac{1}{2}$ hour. Right jugular vein also opened.	? Syncope P M Degeneration of muscular fibre of heart, endocarditis shown by roughening of mitral and aortic valves. General congestion of viscera.	No symptoms during life of cardiac disease or clue to cause of heart disease.
122	21	M	Reduction of dislocated hip (20 minutes)	2 dr	P	P failed and patient died immediately	Syncope.	
123	1	F	Extraction of tooth					Sitting posture.
124	14	M	For necrosis of tibia.		P & R	Operation was commenced when patient was seized with vomiting. Breathing ceased and P became imperceptible. Usual measures taken for resuscitation.	Syncope. P M appearances not except enlarged liver	
125	26	M	Insertion of drainage tube in thigh for disease of neck of femur	Oil lint. 1 dr	P & P	R ceased. Face pale at first and shortly became livid. Artificial R (Silvester's method), tongue pulled forward, and battery	Syncope P M Lungs dark red and large bronchial tubes full of thin frothy fluid. No clot in pulmonary arteries. Heart large with only shred of decolourised clot in left ventricle. Wall of left ventricle thicker than natural and cavities generally large. Heart 14oz. Bits of wall of left ventricle showed granular degeneration. Striae obliterated. Endocarditis on aortic valves.	The commencing fatal degeneration of heart sufficient to account for chloroform being fatal.
126	68	M	Amputation of foot.	1 dr (about).	P	Suddenly became rigid and P stopped. Every exertion made for restoration artificial R for $\frac{1}{2}$ hour with no avail.	? Syncope.	
127	42	M	To quiet tetanic spasms after fracture of both legs		P	After few inspirations I ceased. Artificial R and drawing out tongue resorted to. Soon circulation and R restored but after being put to bed R. ceased and life became extinct.	? Syncope.	
128	22	F	Ovariectomy	On towel		Patient vomited suddenly and profusely. Immediately eyes opened pupils proter naturally dilated face became pallid and R affected. Measures adopted were Artificial R and pulling forward of tongue. Deep spontaneous R several times in succession but death followed on a second collapse.	? Inhalation of chloroform causing syncope but in this case great doubt as to whether syncope was not caused by operation itself (see L 25 Feb 1870, pp 297-299). P M No diseased conditions in head or chest or elsewhere. Ovarian tumour free from peritoneal adhesions.	Patient thin and emaciated.
129	1	F	For opening of whitlow	3 dr				
130		F	Removal of epithelioma of tongue	(1) Coil of paper (2) napkin. 2 dr		Suddenly fainted, and despite all efforts made for a long time never breathed again.	Direct poisoning of nervous centres by <chem>CHCl3</chem> .	
131	6	F	For convergent strabismus of left eye.			Operation performed while patient not fully under <chem>CHCl3</chem> . Patient was restless, shortly after operation ceased breathing. All efforts to restore R futile.		
132		M	Amputation of forearm.		P	P became weak. R ceased, and after one or two respiratory efforts patient died.	P M Blood very fluid. Right auricle and right ventricle enormously distended. Advanced fatty degeneration of heart.	

DEATHS UNDER CHLOROFORM.

CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (*continued*)

1	2	3	4	5	6	7	8	9
No.	Forcee	Age	Operation and duration of administration.	Method of administration.	P or R.	Symptoms occurring under anæsthetic.	Assigned cause of death.	Remarks.
2		31	Amputation of left leg crushed by railway engine.		P	Anæsthesia induced almost instantly P became slow and irregular breathing irregular Symptoms improving operation was performed. Again P failed with spasmodic gasping breathing Artificial R. tried, with no effect.		Patient intoxicated when leg crushed, but being a stranger his habits of life were not known.
34		F	Reduction of dislocated shoulder	2 dr		Took CHCl_3 well, but ceased to breathe soon after	Organic disease of heart.	"Was a stout woman with good colour"
35	24	F	Foreble extension of knee.		P & R.	As symptoms of asphyxia appeared the operation could not be continued. Artificial R. restored breathing for 1 minute but it again became irregular and I became imperceptible. Tracheotomy venesection and electropuncture tried with no effect.	? Syncope or asphyxia. P.M. Small vegetations on valves of heart. It is to be noted that P became imperceptible before R. stopped.	
36			Fistula in ano.					
140		F			P & P		Syncope.	Had been given CHCl_3 a week before, but it did not take effect.
141		M	Amputation of thigh.	Clover's apparatus.	P	Two minutes after cessation of giving anæsthetic patient became faint and sick heart ceased to beat	Death not directly due to administration of chloroform, but rather to shock acting on feeble heart in very unhealthy subject	Patient strumous and anæmic Chloroform given with greatest care and stimulants given before its administration.
145		F	Extraction of 12 teeth.	Napkin.		After extraction of first 4 teeth patient became partially sensible so small doses more given at intervals till all extracted. While reclining or vomiting patient seemed to strangle and suddenly expired. Was placed horizontally and artificial R. kept up $\frac{1}{2}$ hour	Asthenia of heart. I.M. appearances nil	Had taken CHCl_3 well two years previously Sitting posture.
149		M	Sounding for stone.	Clover's inhaler	P & R	Some terror which passed off when put in position. When sound introduced R. suddenly stopped during inspiration, and I could not be felt. Face became dusky pale. Artificial R. for 20 minutes and galvanism over præcordia tried. Pupils not noticed.	? Syncope P.M. Heart moderate amount of dark blood in right side little in left organ loaded with fat which penetrated deeply into substance walls pale and soft much interstitial fat and fatty degeneration of fibres Some atheroma of aorta. Kidneys congested and albuminoid. Bladder contained pyramidal stone impacted in neck. P.M. "Poisoned by chloroform." Paralysis of heart.	Had stricture of urethra and stone in bladder Was unable to retain urine for more than five minutes and could get no sleep from pain.
150	34	M	Fracture of leg					
151		M	Removal of cystic tumour over left eye.		P	Operation nearly completed when patient threw back head, neck became stiff, and he gasped. Efforts made to restore him for $\frac{1}{2}$ hour with no effect.		
152	34	M	Amputation of finger (3 or 4 minutes).	Lint.		After inhaling the drug 3 or 4 minutes he expired.		"Death from tetanus, accelerated by chloroform."
153	40	M	Surgical examination.			Died suddenly		
154	5	M	Fistula in ano		R.	When the operation had been completed, patient placed on his back. Breathing ceased and he became livid in face. Heart continued beating though feebly After artificial R. had been employed a few minutes he breathed a few seconds, and then breathing and P ceased altogether Artificial R. for 40 minutes without effect.	Inhalation of chloroform. Failure of R. soon followed by that of heart. P.M. Heart 14 oz., left ventricle full of dark fluid blood, its walls pale and flaccid and covered with	

DEATHS UNDER CHLOROFORM
CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (*continued*)

1 Reference	2 Age	3 Sex	4 Operation and duration of administration	5 Method of administration.	6 P or R	7 Symptoms occurring under anæsthetic	8 Assigned cause of death	9 Remarks
155	36	F	Fractured jaw				only a thin layer of fat. Mitral orifice admitted tips of four fingers. Muscular fibres of heart with abundance of fat globules. Lungs congested, pulmonary artery full of blood. Spleen large and soft.	
156			For dislocated humerus.				P M 'Chloroform. Fatty heart.'	Heart and lungs carefully examined before operation.
157	2	M	Iridectomy	In flannel cone $\frac{1}{2}$ dr	P & P	After a drachm of CHCl_3 had been given operation commenced, but as pain was observed 20 minutes more given. Operation completed when suddenly stertorous breathing began. Lips and face turned blue and sterno mastoids became contracted. Cold water and artificial R (Silvester's method) R returned. But lividity came back and veins of neck and temple were swollen. Artificial R and battery and frictions maintained for 1 hour, but the heart ceased to beat.	Inhalation of chloroform causing direct paralysis of heart. No 1 M.	
158	1		Amputation of foot		R.	R ceased. Died suddenly. No stertor or gasping.	'Paralysis of heart.' P M Fatty degeneration of heart. Not enough to account for death.	
159	11	M	Iridectomy and removal of lens	2 dr (about)	P & R	While the dressing was being applied the lad made several deep inspirations and then ceased breathing. I could not be felt. Other pupil much dilated. Artificial R and other means succeeded in temporarily restoring the P and colour and a few respiratory movements, but further collapse set in and after $\frac{1}{2}$ hour of further effort hope was abandoned.	P M failed to exhibit any peculiarity.	
160	31	M	For reduction of dislocation of shoulder joint	$\frac{1}{2}$ oz. (about)	P	After 1 ounce CHCl_3 given more CHCl_3 sent for, patient meanwhile recovering. After second dose from second bottle spasm and cessation of heart's action came on—then sudden death.	'Death from the effects of chloroform administered with out proper degree of care (Verdict of Coroner's Jury.) M T & G correctly claimed that this was 'monstrous,' as CHCl_3 accidents happened with the most experienced surgeons.	
161		F	Extraction of tooth			Died 5 minutes after extraction of tooth.		Was in perfect health.
162		F	Extraction of tooth		R.	Difficulty of breathing came on about $\frac{1}{2}$ hour after operation and no restorative measures were of avail. It was significant that the blood coagulated almost immediately after operation, and that there was no hæmorrhage.		Sitting posture. 'If taken (CHCl_3) was twice before.
163		M	For perineal abscesses and fistula.	Lint cone.	P & R	More violent than usual during second stage. CHCl_3 discontinued and operation begun. Was turned on left side when suddenly breathing and I ceased. Tongue held and artificial R. cold water douche application of ammonia and other methods tried. Of some avail for short time but breathing ceased.	Paralysis of heart. 1 M. All organs healthy, but immense amount of fat.	
164		M	Amputation of leg	On lint 3 dr		Before operation commenced, and after inhaling the CHCl_3 , he became excited with spasm and rigidity. I became rapid and feeble, but heart still beat. Galvanism from neck to diaphragm and artificial R practised. Consciousness partially restored. R. feebly re-established and P returned at wrist, was able to swallow a little brandy, but died soon after.	Sank through depression of vital power caused by hæmorrhage and injury.	

DEATHS UNDER CHLOROFORM
CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (*continued*)

1 Reference.	2 Age.	3 Sex.	4 Operation and duration of administration.	5 Method of administration.	6 P or R.	7 Symptoms occurring under anæsthetic.	8 Assigned cause of death.	9 Remarks.
65		M	For forcible extension of ankylosed knee joint.	1½ dr		Unconsciousness supervened and patient died in about ½ hour		Had been given CHCl ₃ several times for over a week preceding operation.
66		M	For reduction of dislocation of right shoulder		P	While dislocation was being reduced by means of pulleys patient suddenly ceased to breathe. Water dashed in face tongue pulled forward. Artificial R., and galvanic battery applied. 3 or 4 faint respirations obtained, but heart did not beat again.	Syncope. P.M. Heart flabby, in folds, not contracted muscular fibres fatty, veins and liver much congested.	
67	50	M	For putting leg with dislocated tibia and fractured fibula in swing apparatus (4 minutes). Amputation of ulcerated leg	Handkerchief. Less than 1½ dr	P & R	Limbs were about to be raised from splint when dangerous symptoms appeared. Artificial R. for 40 minutes restored heart's action and breathing but both soon ceased, and no efforts to arouse them availed.		
68	49	F			P	Just before insensibility came on patient became suddenly livid. P. ceased. 1 or 2 gasps. Artificial P., cold water sprinkling and flogging and small quantity of blood drawn from jugular vein. 1 or 2 gasps probably death throes. Retinal veins much distended.	From blood being unable to pass through lungs. P.M. Lungs dark red very little blood escaped from tissues when pressed. Patches of collapse in both. Heart right side healthy largely empty because veins of neck had been divided and blood had escaped. Left ventricle with very little blood, its muscle pale and soft, showing fatty degeneration but no yellow lines across muscle.	Had been suffering from syphilitic ulceration of leg. Had taken CHCl ₃ well a week previously, but vomited for 3 days afterwards and had 2 rigors. Had to be given food by enema.
169 170	39	F	Extraction of 8 teeth.	Napkin.	P	Anæsthesia partial when tooth extracted patient screamed loudly fainted was laid on lounge. P. and heart action ceased, and R. at length failed. Measures resorted to were Artificial R. electricity cold water and stimulating enema.	? Syncope No P.M. reported	Sitting posture Of delicate health very nervous mother of 8 or 9 children. Had taken CHCl ₃ in all her labours except the last and the same for teeth extraction on 3 different occasions previously to fatal dose. Opinion expressed that if CHCl ₃ had been pushed to insensibility the case would have ended differently.
171		F	Extraction of tooth.	Cone made from handkerchief. 3 dr	P	Deathly pallor came over countenance. Heart ceased. Artificial R. by mouth to mouth inflation for 1 hour. Anæsthesia was only partial.	Syncope.	Sitting posture Nervous delicate no organic disease.
172		F			P & R	Had fair P. and regular R. up to very instant when both ceased.		
173		F				Died on 6th day from vomiting caused by first inhalation of CHCl ₃ .		
174 175 176 177						In a few of these cases death was gradual.		
184		M	For wound left by amputation dressing	Less than ½ oz.				The first death after a long and frequent use of CHCl ₃ . Had taken CHCl ₃ twice latterly—viz., 3 days before and 7 the day before his death.

DEATHS UNDER CHLOROFORM
CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (*continued*)

1 Reference	2 Age	3 Sex	4 Operation and duration of administration	5 Method of administration	6 P or R	7 Symptoms occurring under anæsthetic.	8 Assigned cause of death.	9 Remarks
185	8	M	Dressing external burn on dorsal and lumbar regions		R.	After inhalation had been discontinued breathing had ceased. Measures employed were Artificial R. (Silvester's method) and galvanism of diaphragm through phrenic nerve. A few gasps accompanied the galvanism at first. Artificial R continued for $\frac{3}{4}$ hour.	P Failure of respiration. P M Blood dark coloured. Small clot in right ventricle, left contracted. Left lung firmly adherent to upper lobe of pleural costa, in lower lobe lobular collapse and some emphysema, lining membrane of trachea congested and swollen in minute bronchi rusty coloured frothy mucus.	The wound would heal and general health of patient was bad.
186	45	M	Amputation of middle finger for necrosis	3 dr	P & R	Patient hardly under influence of drug when he died suddenly. No alteration noted in breathing till face became pale, and heart's action almost immediately was arrested. Measures employed were Artificial R and galvanism.	Syncope P M Heart fatty	
187	37	M	For radical cure of hernia	Towel	P & T	P and breathing suddenly ceased. Measures taken. Trunk bent and neck laid straight. Tongue drawn out. Artificial R (Silvester's method) ammonia to nostrils. Galvanism cold affusions. Vein on arm and jugular vein opened. Treatment for $\frac{3}{4}$ hour. No return of life.	Mixed causes—CHCl ₃ inhalation dread of operation diseased condition of heart. P M Heart walls slightly flaccid. Blood thin and frothy. Walls of left ventricle and septum cordis fatty. Lungs healthy, but deeply loaded with dark fluid blood. Kidneys partially fatty. (<i>B M J</i> 1871 ii p 130). Much blood on right of heart compared with quantity on left. Contra indicates death from gradual asphyxia.	Moderately said to be intemperate.
188	13	M	On eye for squint			When operation completed and patient was recovering from effects of drug he tried to vomit, while so doing he made a deep inspiration which forced back the rising matter and caused suffocation.	Asphyxia	Patient taken to hospital for treatment of an internal disease.
189	34	M	For reduction of fragments of fractured leg	Rag	P	Anæsthesia was incomplete; operation unsuccessful. P ceased beating, usual methods tried with no effect.	From shock to dilated heart. P M Fatty degeneration of liver and kidneys. Brain softened. Heart flabby and much dilated.	Powerful man; seemed intemperate but no trace of alcohol in stomach.
190	33	M	Amputation of first and second toes of left foot					
191				Not more than 1 dr used				
192	48	F	On knee.	Less than 1 dr used				
193	31	F	Extraction of tooth	$\frac{1}{2}$ oz used				
194			For dislocation of elbow					
195		M	Amputation of crushed toe.		P	Almost immediately became violent. P weak and then ceased. Operation had not commenced before fatal symptoms occurred. Galvanic battery applied.	† Syncope.	
196	46	F		1 dr		After one drachm had been used signs of depression began to develop themselves and death occurred.	Syncope.	
197	40	M	On diseased elbow	Less than 1 dr		Died after taking one or two inhalations of a drachm of CHCl ₃ which had been poured on a sponge at least two or three minutes before.		

Sitting posture.

DEATHS UNDER CHLOROFORM
CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (*continued*)

1	2	3	4	5	6	7	8	9
Age of patient	Sex	Operation and duration of administration.	Method of administration.	P or R	Symptoms occurring under anæsthetic.	Assigned cause of death.	Remarks.	
34	M	Removal of tumour at edge of sterno-mastoid.		P	Complete resolution was produced, and the first incision had hardly been made when the patient was found to be colourless and without P or sounds of the heart. In spite of all efforts he died.	P M A small vein leading into the external jugular was found to have been obliquely opened. The jugular contained a long clot segmented by some bubbles of air. Other bubbles existed in the mediastinal and post-cardiac veins. The right ventricle contained a notable quantity of air, and some small ecchymoses were the only things remarkable to be observed in the lungs.	Patient had successfully taken chloroform 6 weeks previously	
30	F	For iridectomy for artificial pupil.	Inhaler with lint 3 drs.	P	Violent struggle began when P quickened and then became imperceptible. Face changed from crimson to livid purple. Patient was rolled on to left side and back again. R did not stop but became shallower. I aided by artificial I kept up 20 minutes. Interrupted magnetic current applied over phrenic nerve and enema of brandy and cold water given. Action of heart not restored. Acupuncture between fifth and sixth ribs also tried.	Paralysis of fatty heart. P M Anterior surface of heart covered with layer of fat. Muscular walls thin, pale soft, flabby. Cavities dilated. Right containing fluid blood, left empty. Lungs engorged with dark blood.		
40	F	For ovariectomy.		P & R.	Breathing laboured. Face livid. P failed. Effort to cough with discharge of frothy bloody mucus. Measures resorted to were: Drawing out tongue and artificial R (Silvester's method). These failing it was found that metal plate with false teeth was impacted in the larynx. This was extracted and artificial P continued 40 minutes. Some gasps, but heart failed.	Asphyxia—secondary heart failure. P M Heart thin. Walls and flabby. Right ventricle dilated containing small quantity of fluid blood. Mitral and aortic valves slightly altered by deposit of no fatty degeneration. Lungs healthy. Abdomen encephaloid cancer of peritoneum with ovarian cancer. ? Syncope.		
40	M	Removal of lenses of eyes.	Towel. More than 1 dr.	P	Jerked head off pillow. On being raised, breathing became interrupted and heart's action ceased. Measures resorted to were: Pulling forward tongue, cold water affusion, galvanism to phrenic nerve by Störer's battery. Artificial R for ½ hour. Result, only a few shallow inspirations.	P M Body well nourished. Heart hypertrophied and fatty. Right cavities gorged with blood. No valvular lesions. Lungs emphysematous. ? Syncope. P M Extensive fatty disease of heart.	Thickset met with injury through explosion of blasting powder. Had taken CHCl ₃ once before for operation on eyes.	
30	M	For phagedenic sore.		P	Before patient fully under P ceased. All efforts including galvanism and artificial R of no avail.			
30	F			P & R	P and breathing ceased suddenly after a few stertorous Rs. Usual means resorted to including galvanism which produced some convulsive efforts of the respiratory muscles but animation not restored.			
30	M		1 dr.	P & R.	After short inhalation a few convulsive Ps. and then sudden stoppage of heart's action and breathing. Galvanism, artificial R, and tracheotomy tried without effect. Expired 2 minutes after administration.	Paralysis of heart.		
30	M	On jaw bone.				Paralysis of heart.		
30	M	On hip joint by galvanocautery.			Breathing became stertorous. Tracheotomy instantly performed with other measures but all of no avail.			
30	F	Amputation of thigh.			Patient died on table before operation had commenced.			
30	F	Repair of a bitten-off nose.					Strong and healthy looking	

DEATHS UNDER CHLOROFORM
CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (*continued*)

1 Reference.	2 Age.	3 Sex.	4 Operation and duration of administration	5 Method of administration	6 P or F	7 Symptoms occurring under anæsthetic	8 Assigned cause of death.	9 Remarks.
209	24	M	On eye.		P	Became apparently unconscious so that inhaler was being removed, but on showing signs of sensibility it was readjusted. A change seen and heart soon ceased acting. Measures taken to restore animation but without avail.	"Chloroform Meningeal apoplexy" P.M. ? Syncope.	Had taken CHCl_3 for similar operation previously.
210	16	F						
211-214								
215	70	F	Reduction of fractured leg	Small quantity		Patient quickly succumbed to influence of CHCl_3 . Death ensuing when very little had been used.	"We are not aware that any necropsy was made or inquest held.	
216	34	M	Examination of inflamed foot and leg	3 dr	P	P failed, sighing pallor and some lividity. Measures adopted were Artificial R. (Silvester's method) galvanism to heart friction and brandy enemata, abandoned after 3 hours. Operation was being proceeded with when P failed.	Syncope P.M. Lungs and pleurae healthy, lungs apparently, but not really, congested. Heart pericardium healthy, left ventricle neither firmly contracted nor perfectly flaccid, with no excess of blood; muscular fibres somewhat degenerated. Stomach extravasation of blood at cesophageal and Liver large, palish red. Kidneys healthy, large, and venously congested.	Hard drinker. To somewhat extent fairly developed body fairly well nourished. Had taken food for 24 hours before administration of CHCl_3 , but had some beer about hour beforehand.
217		M	Amputation for compound comminuted fracture of left leg	3 dr 10 min.		Vomited twice during induction of anæsthesia. During operation face became livid, tongue was thrust between the teeth and R ceased which was restored on removal of tongue by forceps. To complete operation little more CHCl_3 given (10 minims) which was inhaled for few seconds. Ten minutes after removal of mask R shallow and infrequent, then patient became livid, teeth fixed, and R ceased entirely. Galvanism and artificial R used with no effect.	P.M. Heart pale and empty; mitral valve thickened, some atheromatous deposit in aorta; striae of muscular fibre distinct. Lungs congested.	
218	57	F	Removal of tumour from right breast.	1 dr	P	P suddenly stopped. Breathing became short and shallow, then ceased, face livid, pupils slightly contracted. Measures adopted were Throwing open window, cold affusions, drawing out tongue with forceps, artificial R (Silvester's method); but all useless.	? Syncope. No P.M.	Of active habits, temperate, and in good general health.
219		F	Extraction of teeth			Patient became faint and in spite of every effort to revive her died in a few moments.	Syncope	Sitting posture.
220	49	M	Resetting of broken leg.		P	Before leg could be reset heart suddenly stopped. Usual means, including artificial R, resorted to with no effect.	Disease of heart 1 M Heart and lungs diseased.	Intemperate. Leg had already been set, but patient displaced it in fit of delirium. Was very violent and was suffering from spasms till the CHCl_3 was given.
221	28	M	Amputation of thumb	Napkin.		In a few minutes after administration patient began to struggle a little. Face became suffused, eyes seen to turn up and jerk. Tongue drawn forward. Breathed very heavily for 10 or 15 minutes. After this consciousness never regained. Galvanic battery sent for, none at hand.	? From rupture of blood vessel on brain. "There would probably be some disease of the kidneys." No P.M. reported, or 1 M appearances detailed.	Patient was willing to have operation done without anæsthesia. No second medical man in attendance till just before patient died.
222	35	M	Removal of necrosed bone or amputation of leg, at thigh (15 minutes)		P	Had inhaled CHCl_3 for about 5 minutes, when signs of distress came on and violent struggles to push inhaler from mouth then sudden cessation of heart's action, sudden gasping for breath, brief struggle—death. Measures resorted to were Artificial R. and galvanic battery.	? Syncope.	Health had failed very much from diseased leg and amputation was held out as only likely remedy.

DEATHS UNDER CHLOROFORM
CASES BETWEEN 1890 AND 1891 FROM PUBLISHED RECORDS (*continued*)

1	2	3	4	5	6	7	8	9
Reference	Age	Sex	Operation and duration of administration.	Method of administration.	P or R.	Symptoms occurring under anæsthetic.	Assigned cause of death.	Remarks.
23	42	M	For diseased elbow			Died after taking 1 or 2 inhalations of 1 drachm of CHCl_3 .	Sudden syncope.	
24	51	M	Reduction of Pott's fracture (2 minutes).	Sponge. $1\frac{1}{2}$ dr	P	Breathing became very full and slow not stertorous; no P no heart beat pupils dilated. Measures resorted to were Wet towel, opening jugular vein, application of magnetic electricity to cardiac region and artificial R. for 20 minutes. No return of P but several respiratory attempts.	Syncope. P.M. Lungs adherent by old adhesions emphysema along anterior border and apices of both. Heart small, right ventricle dilated and with auricles full of black blood walls of right cavities thin left ventricle contracted and empty coronary arteries slightlv atheromatous excess of fat on surface of heart. Liver large and in early fatty state	Had been drinking excessively for six weeks before injury.
25	30	M	For injuries to foot.		P	Became violent. P weak, then ceased. Galvanic battery applied, to no purpose.	From overdose of CHCl_3 causing paralysis of heart. No I.M.	Was not examined prior to administration of CHCl_3 . Student had charge of P. An action was brought by patient's widow against the medical men. Finding—for the defendants.
26	40	M	Examination of necrosis of right humerus.	1 or 2 dr	P	Examination was concluded, and in recovering consciousness patient vomited greenish fluid. P hitherto good, suddenly stopped, pupils dilated l. impeded. Measures tried were Artificial R. and galvanism for $1\frac{1}{2}$ hour	Syncope during recovery from CHCl_3 . P.M. Some parts of heart and kidney put aside for examination, but viscera generally healthy	Was the subject of fever from simultaneous necrosis of right humerus left thigh, right tibia and metatarsal bone 4 months previously
27	40	M	Forcible dilatation of sphincter in fissure of anus.	On two small linen compresses in metal cone with 2 air holes.		Patient did not take CHCl_3 well it was therefore given slowly. After dilatation was accomplished, patient showed signs of feeling pain. R became noisy. Chest struck with palm of hand. At this moment eyes were wide open, immovable without expression, breathing ceased and face was cyanosed. Artificial R. (Silvester's method) practised, the air entered left chest but the eye glazed and P ceased. Artificial R. also performed by introducing sound into larynx but former method again resorted to. Battery applied to sides of chest and to epigastrium and also to base of neck. Muscular contractions obtained which gradually diminished and then ceased.	? P.M. Made following day Heart engorged with blood, especially right auricle which was almost as large as the hist. Walls intact valves healthy Blood in cardiac cavities fluid and black without clots. Left lung two tubercles at apex as large as a nut with softened interior at top of lower lobe of same lung large tubercle around which there was slight hæmorrhage.	Patient of good constitution and robust appearance.
28		F	Extraction of tooth.					Sitting posture.
29	16	M	Extraction of tooth.	Napkin.		Artery flickered pallor. Measures adopted were Inversion pulling forward tongue application of ammonia to nostrils cold douche—result of these several inspirations after which breathing ceased. Artificial R. (Marshall Hall's method) and inflation of lungs by bellows unsuccessful in restoring heart's action.	No P.M.	Sitting posture. Patient was suspected to be suffering from some heart trouble.
30			Trivial.			Every means was applied to restore animation without avail.		Patient was young and robust.

DEATHS UNDER CHLOROFORM
CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (*continued*)

1	2	3	4	5	6	7	8	9
Ref. source	Age	Sex	Operation and duration of administration	Method of administration	P or R	Symptoms occurring under anæsthetic.	Assigned cause of death	Remarks.
231	60	M	Introduction of catheter owing to rupture of perineum (more than 7 minutes which was duration of 2nd administration)	Clover's apparatus	P	7 minutes after second administration commenced, P flickered and stopped. Restorative measures of no avail. Measures taken were Artificial R. (Silvester's method) for $\frac{1}{2}$ hour, galvanism to phrenic nerve and diaphragm, friction to extremities.	Syncopal. Lungs deeply congested. Right side of heart flaccid and full of fluid blood left side empty and contracted. Arteries in brain and throughout body atheromatous. Blood infiltrated into cellular tissue of perineum and scrotum.	Patient an insane criminal.
232	45	F	Putting fractured arm upon splint and reduction of dislocation of radius.	2 dr	P & R	Violent struggling at first, but after the second draught was given the patient ceased struggling and operation had begun, when patient's face was noticed to be livid pupils dilated. L and R ceased. Patient was laid on floor tongue drawn out with forceps. Galvanic battery applied to phrenic nerve and diaphragm. Valsalva in arm opened and artificial R. performed for $\frac{1}{2}$ hour, but the patient did not respond.		Patient not noted for sobriety.
233	22	F	Tracheotomy				P. M. 'Death by chloroform'	Was suffering from phthisis and tubercular laryngitis.
234		M	Amputation of leg and part of thigh for fracture in both.		P	In the middle of the operation which was very protracted patient began to struggle and became conscious. More CHCl_3 given at once P gave way, patient gasped and was dying. Measures taken were Admission of cold air drawing forward tongue with forceps, attempt at artificial L (Silvester's method)—these measures too late.	Syncopal. Although death was due immediately to CHCl_3 everything had happened previously that could hasten it (1) Patient had suffered injury in coal mine which caused most serious fractures (2) Six hours had elapsed between accident and operation (3) He was carried four or five miles on stretcher, over bad road, in wet clothes, losing much blood and suffering great pain. Case not recorded at the time, because it was generally thought that the injuries caused death, and not the CHCl_3 .	The medical man recording this case insists on the necessity of providing proper room and beds at all large works where accidents so often occur which would double the chance of recovery, even when anæsthetics with their necessary risk have to be given for an operation.
235		M	For injury received in mine.					Patient an injured minor. Delay and loss of blood had taken place.
236			For strangulated hernia.					
237	30	M	Removal of diseased tibia after compound comminuted fracture of both bones of right leg (1 minute)	Int. 1 dr	P	Patient went under easily, and as first incision was made P suddenly failed and stertorous breathing ensued. Cold water was dashed on face. Ammonia applied to nostrils. This roused him for about a minute and the R became easy, when syncope again occurred from which he did not rally. Means employed Ammonia to nostrils turpentine stupes to heart, artificial R. (Silvester's method) galvanic current to respiratory muscles, tongue drawn forward.	P. M. Lungs anteriorly natural posteriorly portions were infarcted. Trachea and bronchial tubes were infarcted. Heart slightly larger than natural. Muscular tissue somewhat flabby. In right ventricle there was a small patch of organised lymph about size of four penny piece. Liver spleen and kidneys healthy. There was an unusual amount of fat in the abdomen.	A strong muscular soldier. General health good.

DEATHS UNDER CHLOROFORM
CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (*continued*)

1	2	3	4	5	6	7	8	9
Reference	Age	Sex	Operation and duration of administration	Method of administration.	P or R.	Symptoms occurring under anæsthetic.	Assigned cause of death.	Remarks.
238		M	On machinery wound of finger			Before full narcosis was established, patient was seized with convulsions and died.		Apparently healthy
239	47	F	Extraction of tooth.	Conical sponge	P	Coincidentally with extraction of tooth, P stopped Artificial R., dashing of cold water and faradism, did not restore animation.	Syncopa. P.M. Heart fatty degeneration muscular structure of tawny colour, easily broken down under pressure microscopically only one thick line of healthy muscular structure beneath visceral pericardium, the rest in advanced fatty state	Sitting posture.
240	37	M	Puncturing enlarged liver		P	P suddenly failed patient turned blue and gasped. Artificial I. and galvanism employed without success for 1 hour Artificial R rather embarrassed as patient on bed in corner of ward.	Syncopa P.M. Liver greatly enlarged, lardaceous containing numerous gummatous masses, closely adherent to diaphragm	
241	29	M	Amputation of thumb (5 minutes).	$\frac{1}{2}$ oz.		5 minutes after commencement of administration was convulsed skin of chest neck and face became purple and breathing stertorous. Breathing ceased. Artificial R and galvanism resorted to. Efforts abandoned after 20 minutes.	Chloroform and alcoholism Died from coma an infrequent form of death from anæsthetics P.M. Lungs slightly congested. Mucous membrane of wind pipe slightly red dened. Heart empty left ventricle contracted. Right flaccid valves normal. Kidneys congested. More cerebro spinal fluid than usual	
242	46	M	Reduction of dislocated shoulder joint.			Luxation reduced but patient was dead. Usual efforts made for resuscitation	? Syncopa.	
243		M	Reduction of old-standing dislocation of shoulder joint			When bad symptoms came on venous injection of ammonia used with no result		Had been hard drinker
244	30		Passing catheter for stricture of urethra.	Sponge tent 2 dr		Stage of excitement violent, arms and legs being moved violently Held breath Face became dusky Sponge removed and no more chloroform given Struggling continued and still held breath Face became more livid Slapped with wet towel which did not cause him to inspire. Face became darker and struggling ceased. Artificial R caused some return of P after $\frac{1}{2}$ hour also galvanism, but no permanent good.	Over distension of right side of heart caused by violent movements of extremities and forcible holding of breath P.M. Right side of heart gorged with fluid. Lungs deeply congested. Bladder thickened and dilated.	
245		M	For epithelial cancer of lip					
246		F	Removal of cancer of breast.					
247	0	M	For aspiration of abscess in submental region.	2 dr	P	Struggled much during administration of anæsthetic but became quiet. Just as more CHCl_3 about to be given for operation patient became pale and P stopped. Every means used to restore without avail.	Syncopa. P.M. Left cavities of heart empty right contained much dark brownish red fluid blood mixed with granular clot. Lungs emphysematous	Patient a heavy drinker

DEATHS UNDER CHLOROFORM
CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (*continued*)

1 Reference	2 Age	3 Sex	4 Operation and duration of administration.	5 Method of administration	6 P or R.	7 Symptoms occurring under anæsthetic.	8 Assigned cause of death.	9 Remarks.
248	50	F	For iridectomy for glaucoma in left eye.	Inhaler 1 dr 40 minims	P & R	Became rigid breathing stertorous, hurried and uneasy. R. watched and patient tried to eject saliva. Drove deep inspiration and ceased to breathe. P stopped. Measures taken were: Wet towel, ammonia to nostrils, artificial R. (Silvester's method) only 1 or 2 efforts of breathing followed.	? Syncope. P.M. Anterior surface of heart loaded with fat, posterior wall of right ventricle very thin, muscle being apparently encroached on by fat, but no fatty degeneration. Aorta dilated and rigid with atheroma in atherosclerotic deposit, right auricle distended with fluid blood, valves healthy.	Patient had had same operation performed for right eye and chloroform was given from same bottle on each occasion. The chloroform was supposed each time to be methylene bichloride, but subsequent analysis showed that it was chloroform.
249							P.M. Right ventricle of heart dilated and fibres undergoing fatty degeneration.	
250	48	M	For fistula in ano.	Int. 1 dr	P	P ceased. Measures resorted to were: Drawing out tongue, artificial R. slap-plug, chest over heart with wet towel, ammonia to nostrils. Breathing feebly continued, after which two distinct gasps and patient died.	? Syncope.	Patient had taken CHCl_3 before with out difficulty.
251	23	M	Operation on finger.	(1) Bag apparatus (Clover's) (2) blowing apparatus (Junker's) (3) bag apparatus (4) blowing apparatus	P	Inhalation begun with bag apparatus and continued with blowing apparatus but owing to vomiting former was substituted. When patient was under an exploration of growth before operation, caused delay, and he became half-conscious. Blowing apparatus again used, patient drew in too much air through tube so cambric handkerchief was placed over face. Then P became weak and pupils dilated. Was laid on floor, artificial R. (Bain's and Silvester's methods) tried to assist natural R. which still continued after I ceased. Ammonia near mouth, cold affusions, hot cloths over chest also tried and artificial R. continued for 1 hour. No return of P.	P.M. "Inhalation of chloroform. Syncope when the handkerchief was laid over face CHCl_3 vapour too strong for an enfeebled heart. No I.M., so the heart could not be examined but the above reckoned the most probable cause of death.	
252		M	Removal of adenoid growth at back of nares.		P & R	Suddenly I and R ceased. Artificial R. kept up nearly $\frac{1}{2}$ hour with no response to it at any time.	? Syncope.	
253		M	Removal of scrofulous tumour of jaw.		P & R	Patient soon began to struggle and CHCl_3 discontinued. Alarming symptoms came on and artificial R., electricity &c., employed for nearly 1 hour with no avail.	? Syncope. P.M. appearances <i>nfi</i> . Heart showed no disease.	Patient slightly under drink when about to be operated on. By auscultation heart found to be weak, and CHCl_3 given very carefully.
254	47	M	Reduction of dislocation of humerus.	Small quantity	? P			Patient strong healthy looking. A drunkard and past slouter.
255	48	M	Amputation of second finger.	Int. 2 dr	R.	Patient gave 2 or 3 snorts, became livid. R. stopped and I very faint at wrists. Artificial R. (Silvester's method) with cold affusions, galvanism to heart and diaphragm and ammonia to nostrils. Heart beat faintly at end of 20 minutes, but no R.	Failure of R.	
256		F	Extraction of pin from back of hand.			Fatal symptoms set in immediately after operation, and patient died.	? Syncope. Heart very flabby. Fatty degeneration.	
257		M	Dental.				Syncope.	
258	14	M	Examination of dislocated hip (2 minutes).	1 dr	? P	Patient seemed half sensible then fainted, and state became dangerous. Artificial R. (Silvester's method) and galvanism tried without effect.		
259		F	Extraction of a tooth.				Syncope.	Sitting posture.
260	19	M	Amputation of third toe.	On fold of Int. $\frac{1}{2}$ dr	P	About end of operation P fainted and face became pale and livid. Window opened, water thrown on chest, pillows removed. R. became stertorous then faint. Liquor ammonia to nostrils, friction and brandy to extremities. Artificial R. and inversion (Nelson's method) and galvanism. No return of P or R.		

DEATHS UNDER CHLOROFORM
CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (*continued*)

1 Reference.	2 Age.	3 Sex.	4 Operation and duration of administration.	5 Method of administration.	6 P or R.	7 Symptoms occurring under anæsthetic.	8 Assigned cause of death.	9 Remarks.
261	6	M	Removal of tongue for epithelioma by galvanic cautery (10 minutes)	Lint. 3 dr	R	R became irregular and ceased. No stertor, failure of P or pallor. Before R. ceased, artificial R commenced together with application of cold to chest ammonia to nose, and galvanic current to diaphragm. These, with nutritive enemata, continued for $\frac{1}{2}$ hour. Pupils dilated. Heart beat some little time after R. ended.	Paralysis of nervous centres of R. P.M. Brain and heart healthy. Blood throughout body black and fluid. Lungs healthy both pleuræ adherent to thorax and diaphragm. Trachea and bronchi contained much grumous mucus.	Patient had suffered from epithelioma for $2\frac{1}{2}$ years, and for 3 weeks preceding the operation had only been able to take liquid food.
262	48	M	Amputation of little finger	Folded towel	P P	Struggled violently face became livid. All means of resuscitation without avail	? Syncope.	Patient healthy man.
263			On canceroid of penis by galvanic cautery	Funnel compress with plug of lint 12 15 grm.	P	Became pale, P stopped. R was suspended and all efforts to restore animation useless		
264	4	F	Removal of eye.	Flannel stretched on wire inhaler Less than 3 dr	P	P suddenly stopped though breathing continued. Died while under influence of CHCl_3 . Every means used to restore patient but of no avail. Means used were Artificial R (Nelson's method), battery, and cold affusion.	? Syncope P.M. All organs healthy except heart in which was growth about size of nut in anterior wall of right ventricle and projecting into interior of cancerous nature. Suffocation caused by impeded circulation of blood. P.M. Heart healthy cavities empty, lungs diseased, cavity with pus in right lung left lung consolidated and pleuritic adhesions. Liver softened and quantity of pus in peritoneum as result of peritonitis	Heart had been examined but no evidence of disease found.
265	21	F	Puncturing abscess in abdomen.		?	When operation about to be begun, violent vomiting came on. CHCl_3 withdrawn, vomiting ceased and patient became partially conscious, then gave a gasp and died.		
266	11	M	Reduction of paraphimosis.			At close of operation patient ceased breathing. Nelson's method resorted to produced a few gasping Rs but all other efforts in vain. No assistance could be obtained till 30 minutes after patient's death.		
267		M	Removal of toe-nail.			"Got a whiff or two of CHCl_3 and was dead. He was sitting up.		
268	49	M	Reduction of dislocation of shoulder	2 dr		At moment of reduction of dislocation slight shudder and tremor passed over patient. Inversion pulling forward tongue with artery forceps, and other means, tried without success.	Paralysis of heart I.M. appearances nil	
269	51	M	Cauterisation of ulcer on left leg (5 to 6 minutes).	Linen, funnel shaped, with cotton wool at bottom 720 grm.	I & R	Lividity cessation of P and R. Measures resorted to were Opening windows cold water affusions friction over cardiac region two slight inspirations next inversion, artificial R. application of hot iron over epigastrium and soles of feet.	Sudden paralysis of heart producing syncope. P.M. Lungs healthy some pleural adhesions easily separable, especially on left side blood dark and fluid. Pericardium closely adherent to heart. Heart lax and collapsed. ? Syncope. P.M. Lungs healthy. Heart deposit of fat on surface, but healthy aorta ratheromatous. Liver surface with one small nodule (epithelioma). Kidneys granulated and contracted.	Strongly built, thin, with well developed muscles. No appearance of cachexia. Had had ulcer for 20 years, much suffering for $\frac{1}{2}$ year before death.
270	6	M	Removal of superficial sequestrum from surface of left thigh bone.	Long cone. 1 dr	P & R	Lividity R. irregular and noisy. Patient turned over to left and tongue pulled out. Breathing and P became good. Operation then commenced patient again became livid, breathing noisy and irregular. P and R. then ceased for 20 minutes attempts at restoration were made by artificial R. (Silvester's method) galvanism ammonia injection (intravenous) friction cold applied to chest walls—all with no avail.		Stout and muscular no external signs of organic disease. Slight arcus senilis. Anxious, timid and sensitive to pain.

DEATHS UNDER CHLOROFORM
CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (continued)

1 Reference.	2 Age	3 Sex	4 Operation and duration of administration.	5 Method of administration	6 P or R.	7 Symptoms occurring under anæsthetic	8 Assigned cause of death.	9 Remarks.
271	42	M	Removal of right eyeball.	1½ dr (about)	P	After a second dose P failed. Patient seized by foot and head lowered. Artificial R practised, and piece of wood from fire applied to breast, but death in ½ hour	? Syncope.	No disease of heart and free from excitement prior to operation.
272	48	F	Surgical.				" From a surgical operation during the inhalation of chloroform.	Sitting posture.
273	14	M	Extraction of tooth.		R.	Tooth extracted when patient suddenly ceased to breathe. Was sitting upright in chair when CHCl ₃ given immediately after eating heavy meal. Fifteen minutes elapsed before any efforts made at resuscitation		
274	22	M	Circumcision for venereal warts and chronic phimosis		° P	Face became livid and circulation stopped. Galvanism cold affusions, and ammonia tried with no success	Syncope.	Patient had lately suffered from typhoid fever which would account, perhaps, for weakness of heart.
275		M	Amputation of elbow joint.	3 dr.	P	P ceased died instantly Usual restorative measures adopted with no success.	Paralysis of heart. P M showed heart larger than usual and other traces of disease.	Examined previously with stethoscope and no evidence of heart disease obtained.
276		F	Removal of stumps of teeth			Change suddenly came over patient Cold affusion in face. Breathing became slower Was thrown on floor she then ceased breathing Artificial L. Hall's method not answering Silvester's tried she then breathed 2 minutes and then ceased. Galvanism tried with no effect	Arrest of heart's action heart being weakened from certain forms of disease as seen by I M	
277	46	F					I M Administration of chloroform	Was suffering from dysentery
278	53	M	Removal of finger	Less than 1½ dr		Livid though R regular sterior Measures resorted to were Drawing out tongue artificial L. (Nelson's and Silvester's method) for ½ hour with no avail	? Syncope	Patient thoroughly examined before operation as to state of heart.
279	21	F	To pass aspirating needle into tumour	About ½ oz		A good deal of struggling at commencement of inhalation, and just as needle was to be plunged into abscess vomiting came on When the vomiting had ceased partial consciousness had returned and more chloroform was about to be given when a gurgling noise was heard then patient became ghastly pale and died Artificial R was resorted to with no avail.	° Syncope I M Pleuritic adhesions over the sides and bases of both lungs, and over the middle lobe of the right lung there was a small abscess containing 2 oz of pus. Partial consolidation of each base. Heart healthy and empty. Large abscess in left iliac fossa of abdomen nearly up to umbilicus. Source of abscess not traced. No inflammatory lymph over intestines which appeared healthy. Brain normal said to be automic	Patient had pleuropneumonia about May 26 From that time till July 7 the chest symptoms improved. About June 5 tenderness over left ovary was noticed and this increased till July 7 when the operation took place
280	25	F	Obstetric for version		P & R.	As patient did not wake after inhalation house surgeon (not hitherto called) sent for I thereby face blue breathing very imperfect Restorative measures unsuccessful; died 10 minutes after house surgeon's visit.	? Syncope	
281	27	M					I M " Death from chloroform General emphysema of lungs	

Clinical Lecture

ON A

CASE OF HYDROPERITONEUM.

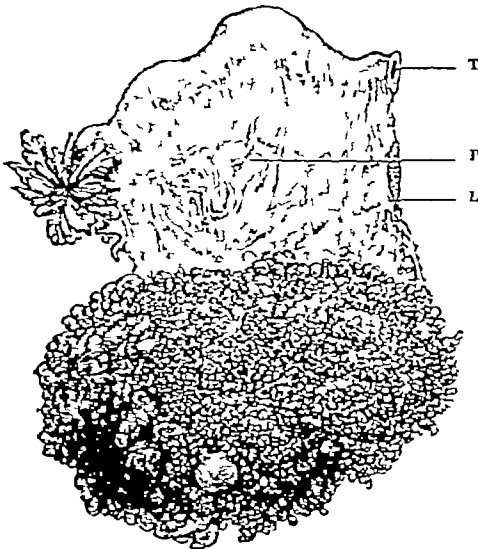
Delivered at the Middlesex Hospital, March 4th, 1893,

By J BLAND SUTTON, F.R.C.S. Eng.,

ASSISTANT SURGEON TO THE MIDDLESEX HOSPITAL.

GENTLEMEN,—It is customary to refer to all collections of fluid in the peritoneal cavity under the term "ascites." Free fluid in the abdomen may arise from abnormal conditions connected with the circulation, such as heart or renal disease, and from obstruction to the portal circulation, to accumulations of fluid arising from such causes the term "ascites" should be restricted. When the fluid is secondary to disseminated nodules of cancer ovarian sarcoma, peritoneal warts, adenoma of the Fallopian tubes, or to salpingitis, the collection of fluid should be referred to as "hydropertoneum." We have had recently, in the Helena Ward, a very instructive case in relation to this matter which induces me to bring the subject under your consideration. Many of you will remember that in January last Mr Arthur Wyborn sent

FIG 1



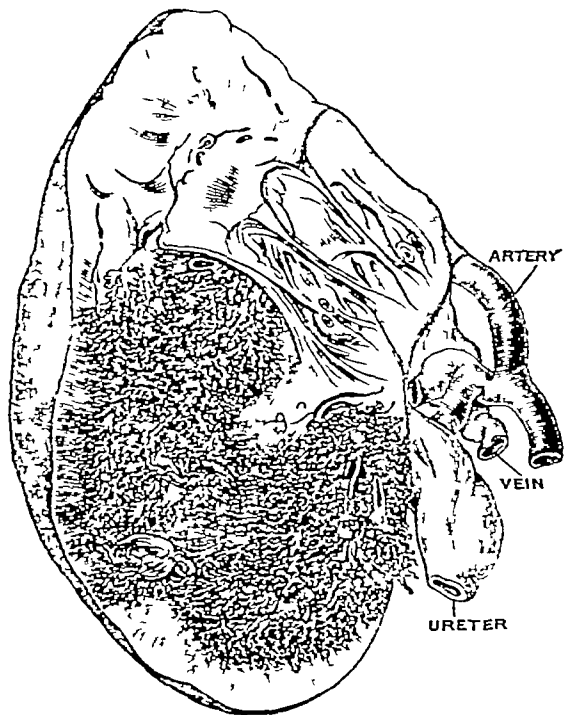
A warty ovary T Tube. P Parovarium. L, Ligament of ovary

me a female patient with a note to the effect that she was suffering from some serious ovarian or uterine disease. The patient stated that she was forty one years of age, single, and had ceased to menstruate for five years. She had for many months suffered from constipation, and that difficulty had increased during the past six weeks. The patient looked ill. On examining the abdomen it was found to be distended below the umbilicus and although I satisfied myself that there was free fluid in the peritoneal cavity I pointed out to you that the physical signs were not characteristic of ordinary ascites. On examining the pelvic organs the uterus was natural in size and position but no tumour was detected through the vagina. On rectal examination a soft mass external to the bowel could be felt pressing upon and narrowing its lumen, but not invading its wall. The patient was advised to come into the hospital. On her admission seven days later the fluid in the abdomen had considerably increased in quantity, otherwise the physical signs remained the same. The urine was normal in quantity and free from albumen. The patient was examined by a medical colleague, who pronounced her free from cardiac or pulmonary trouble, there was no oedema of the extremities. I invited some of my surgical colleagues to examine the case, but they were unable to throw any fresh light on it and it was deemed advisable to recommend the patient to submit to an ex-

ploratory operation. To this she assented without the least hesitation.

The abdomen was opened on Feb 4th, in the same manner as for ovariectomy, and a large quantity of fluid at once gushed out. On introducing my hand into the abdomen I found the left ovary replaced by a large soft, warty mass, the size of two closed fists. The tumour was carefully withdrawn through the incision, and its pedicle transfixed and tied with silk. I found the right ovary in a similar condition, but much smaller (See Fig 1.) This was removed. The abdomen was then flushed with warm water, and on examining the pelvic peritoneum it was found beset with a velvety mass of soft pink warts which bled freely when they were rubbed with the sponge. The uterus was small, but otherwise normal. The abdominal incision was closed with waxed silk sutures, the wound dressed, and the patient returned to bed. She made an uninterrupted recovery and left for a convalescent home three weeks after the operation. The tumours were typical examples of papillary cysts arising in that portion of the ovary known as the paroöphoron, the warts, as I have had several occasions of demonstrating to you, arise from the inner walls of the loculi and often grow so luxuriantly and lead to such distension that the walls rupture and

FIG 2.



A villous tumour (papilloma) of the kidney

become everted, allowing the warty masses to project freely into the peritoneal cavity. In some of the loculi the warts perforate the cyst wall and project partly into the cavity of the cyst and partly into the peritoneum.

On microscopical examination these papillomatous masses will be found to conform to the structure of warts which occur in other situations but the epithelium which surmounts them is very abundant and easily detached, this explains the abundance of cells found in the fluid which escaped from the abdomen. It frequently happens that surgeons are alarmed when they find warts on the peritoneum, they at once regard the case as one of malignant disease, but, as I have told you on other occasions, there is no ground for alarm, as the warts will quickly disappear after the primary tumours have been removed. In this respect these warts are in agreement with what we know of crops of warts on the skin. They often occur suddenly and almost as suddenly disappear, indeed, the life of warts is often very transient. So with peritoneal warts, but as long as the seed supply continues new warts spring up, last for a time and then die, to be succeeded in their turn by a new crop. Remove the tumour, the supply of germ-epithelium ceases, the warts die and the crop is not

replenished. The explanation of the predilection of the warts for the recesses of the pelvic peritoneum is due to the fact that when the body is at rest the detached cells in the peritoneal fluid sink to the lowest level and thus naturally fall into the pelvis. The quantity of cells in the fluid free in the abdomen in these cases is very great, hence, had we removed a small quantity and examined it under the microscope, it would have led us to believe that this woman was suffering from a cancerous tumour, but my investigations have taught me to place very little reliance on the microscopical characters of fluid removed from the abdomen in cases of hydro peritoneum, and for some years I have disregarded this method as an aid in diagnosis.

Let me remind you that there are other situations where papillomata may give rise to secondary tumours. For instance, we have in the museum this rare specimen (see Fig 2) of villous tumour (papilloma) of the pelvis of a kidney. The specimen was obtained by Dr Murchison from a man sixty five years of age, the opposite kidney was affected in a similar manner, but an interesting feature in the case was the existence around the vesical orifice of each ureter of a villous tumour of the same structure as those in the kidneys. It is not improbable, from what we know of the habits of warts generally, that in this instance the vesical warts were due to transplantation of epithelium from the pelvis of the kidney to the bladder. This case should teach us in conducting *post-mortem examinations on cases of villous tumours of the bladder* to carefully examine the pelvis of the kidneys. I should like to discuss with you the relation of the papillomatous masses of the ovary to the hydropertoneum let me reserve this for a future occasion, but be good enough to carry away with you this important lesson whenever you have to treat a case of hydropertoneum—that is, free fluid in the peritoneal cavity unassociated with cardiac, renal or hepatic disease—do not rashly come to the conclusion that it depends on the presence of cancer, even though the fluid may exhibit under the microscope a host of epithelial cells.

ON SOME CLINICAL VARIETIES OF CHRONIC ALBUMINURIA, CHIEFLY WITH REGARD TO PROGNOSIS¹

By C H RALFE M.A., M.D. CANTAB.
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THE clinical significance of albuminuria has, undoubtedly, considerably diminished in importance during the last twenty years. Referring to text-books published about that time, one finds hardly any mention of the fact that albumen might appear in the urine independently of disease of the kidneys, or if spoken of, it was recorded as "highly exceptional" and "unimportant." Moreover, in consequence of the fatality attendant on recognised inflammatory diseases of the kidneys, the presence of albumen in the urine came to be regarded as a symptom of the gravest import. Since, however, the practice of systematically examining the urines of all patients for albumen, as well as those of a presumably healthy class, that present themselves for life assurance and for the public services, came into vogue a numerous and well defined group of cases has been determined, which for convenience may be designated as "functional," and which perhaps constitutes from one third to one half of all the cases of albuminuria that come under observation. Besides which, with regard to the albuminuria associated with actual disease of the kidneys, the earlier recognition of the symptom, owing to the systematic examination of the urine—now, it is to be hoped, universally employed—points to the mischief in the primary stage of its inception before the structure of the kidney is irreparably damaged, and permits, by improved dietetic and hygienic measures, of checking its advance, and possibly in acute forms its recurrence. This has made the prognosis of albuminuria not only more hopeful, taken as a symptom generally, but even in the graver cases, when associated with renal disease, less immediately fatal than was till quite recently the case. It is in respect to this latter class of albuminuric subjects that I wish to invite discussion and I venture to express the opinion that, when early recognised, and when the patient has been placed under

proper supervision—dietetic, hygienic and therapeutic—these forms of chronic albuminuria collectively known by the term "Bright's disease" have a less dark prognostic future before them, but are even, for a time, susceptible of a very distinct amelioration. But in these cases (organic renal disease) there are such clinical varieties depending etiologically on the constitution of the individual—heredity, specific conditions, such as gout, syphilis, struma &c., either acquired or inherited, specific poisons, such as scarlet fever, diphtheria, lead poisoning and the like—which have to be taken into consideration in coming to a conclusion as to the course any given case has to run, that nearly every case presents itself as showing some variation worthy of notice, either as affecting the predisposing or exciting causes or influences, or conditions that accelerate or retard the advance of the disease. I now propose to submit a few of the most important of these clinical variations and their influence on the prognosis of the disease.

The most familiar varieties of chronic albuminuria which present themselves are those which eventuate in the small red and small white granular kidney. Though so frequently coming under observation, still, owing to the insidious nature of their onset, they are rarely observed in their earlier stages, and there is therefore comparatively little information regarding their evolution, and the possibilities of arresting or retarding their development. When they do come under observation the disease is usually far advanced, some decidedly unfavourable symptom having drawn attention to it. Taking the cases associated with small red kidney first into consideration, and excluding hospital patients in whom the systematic examination of the urine when first coming under observation draws attention at once to the condition of the kidneys (and the same may be said of those presenting themselves for life assurance), attention is usually drawn to the true character of the disease by some symptom which denotes how far it has already advanced—as, for instance, attacks of asthma (renal dyspnoea), failure of sight (albuminuric retinitis), hæmorrhages from the mucous surfaces, and paralysis, all symptoms of most grave prognostic import, denoting advanced arterial degeneration and deterioration of the blood, after the recognition of which hopes of prolonging life are seriously curtailed, and as a consequence the prognosis of this form of renal disease is deeply gloomy. One question, therefore, I would submit is supposing the disease is detected in quite an early stage of its inception, is there any possibility of retarding its progress and rendering the prognosis somewhat brighter? As I have said, one so rarely meets with a case whose whole history is known that such a question can only be answered by the collective experience of many observers. Personally I have observed only one case, and even that not quite completely, for, happily, the patient is still living. In this instance I originally saw the patient for an attack of bronchitis in 1878, when he was fifty five years of age. A note was made at that time to the effect that there was no marked emphysema of the lungs, no enlargement of the heart, and no displacement of the apex. The pulse was 88, full and compressible. The urine was normal in general character, its specific gravity 1025 and depositing urates, there was no albumen or sugar detected. This patient again came under observation in 1882, complaining of headache, insomnia and palpitation of the heart. Physical examination showed hypertrophy of the left ventricle and displacement of the apex towards the nipple line, the pulse exhibited some degree of tension. The urine was abundant, its specific gravity 1014, and it exhibited a trace of albumen. The patient was placed on a non stimulating diet, chiefly milk, fish, farinaceous food and white meats whilst red meats, wine and coffee were forbidden. He went to Homburg that summer with the result for a time that the albumen disappeared. He has now been under observation for eleven years, with the result that, with the exception of a slight outward displacement of the apex of the heart to outside the nipple line, of a more palpable thickening of the radial vessels, of the more constant passage of albumen, and of a urine of low specific gravity, he has not altered much for the worse during that period. He has adhered steadily to the diet prescribed for him from the first, and certainly up to the present time has not developed any serious symptoms of the disease, though of course it is impossible to say how long his vessels may resist the tension in them or how far they have escaped degenerative changes, and his life may yet be prolonged. Still such a case is instructive, in that under moderate dietetic restrictions the disease

¹ A paper read before the Medical Society of London on Feb 20th, 1893

has not made further advances during the eleven years it has been recognised. When one reflects that this form of chronic renal disease is markedly hereditary it is possible, by keeping a watch for any manifestations of renal disease or antecedent cardio-vascular trouble and by placing the patient under proper dietetic control, to greatly hinder the advent of those symptoms which one is unable to combat successfully when once they have made their appearance.

With regard to the form of chronic albuminuria associated with the pale or mottled granular kidney, owing probably to the symptoms being detected earlier, the immediate prognosis is not so grave as in the preceding instance. Here the prognosis of any given case depends greatly on the nature of the predisposing and exciting conditions. Thus in the chronic nephritis of gouty patients the intensity and continuance of the inflammation are influenced by the frequency and severity of the gouty manifestations. These cases run often quite a chronic course, and when patients can avail themselves of the dietetic and hygienic regulations now advocated they have been known to live many years. Thus a patient who was seen by the late Dr. Murchison as long since as 1874, for nephritis associated with gout, is still living. He has wintered ever since in some dry warm climate and has adhered to a non-stimulating and comparatively non-nitrogenous diet, and though the albuminuria has persisted throughout, he enjoys a fair measure of health, and as yet has developed no symptoms of *uræmia* or *dropsy*. Even when these symptoms manifest themselves they are not of so grave import as their occurrence in some other forms of chronic albuminuria would lead one to expect and the patients often experience relief from them on the outbreak of a frank attack of gout. In one case, a patient aged forty years, who for three years previously had suffered from albuminuria, was seized with deep coma preceded by convulsions, whilst he also had considerable oedema and almost complete suppression of urine. The case was regarded as almost hopeless, but after many hours the coma passed off, and shortly afterwards an attack of frank gout developed. He lived five years, continuing his work nearly the whole time, and had he taken care of himself, and his occupation been a less trying one, he would probably have lived even longer. In another case, a lady, the duration of life was seven years after the first attack of *uræmia*. In the nephritis occurring in patients who have suffered from syphilis or malaria, and especially those subject to lead poisoning, the prognosis is far less favourable, probably from the fact that degeneration of the vascular system occurs earlier. Indeed it may be taken as a general statement that patients rarely survive more than from eighteen months to two years after the appearance of serious hæmorrhage, either from mucous surfaces or from the vessels of the retina. Mentioning the occurrence of hæmorrhage from degenerated vessels brings to my notice a comparatively rare form of nephritis, which is attended throughout with a hæmaturia more or less persistent. Of three cases recently under observation at the London Hospital, in two the hæmaturia was moderate but constant, in the third profuse. The first case had suffered from albuminuria for about a year, during which time the urine had been bloody, the amount of blood was never excessive, being mostly observed when deposited as a fine red line on standing. The albumen was not excessive, and after the patient had been kept at rest in bed and on a milk diet it became merely a trace. Still blood corpuscles were always to be found on microscopic examination, and on frequent occasions crystals of free uric acid. He suffered at the same time from eczema of the scalp. His general health was not impaired, and whatever the cause of the hæmorrhage it did not apparently proceed from vascular degeneration. The second case was that of a young woman aged twenty-three who was admitted to the London Hospital suffering from hæmaturia. This at first was supposed to be due to possible renal calculus, but a close observation negated that supposition, and there was no doubt that she was suffering from chronic nephritis. She was nearly three months in hospital, and during the whole time very definite traces of blood were always found in the urine, whilst the amount of albumen was never great. In this case the deposit of uric acid crystals in the urine was frequent, and her father was stated to have suffered from gout. In the third case, that of a man aged thirty-eight, who was under the care of a colleague, the hæmorrhage was profuse. The patient had suffered from acute attacks of gout since the age of eleven, and for some years past had suffered from hæmaturia, alternating with the gouty paroxysm. In this case, as in the others, there was no evidence of vascular

degeneration, nor was the patient's health impaired to the extent usually found in chronic nephritis, and the disease, whatever its nature, was apparently running a comparatively mild course. The albuminuria became merely a trace whilst the patients were kept on a milk diet and at rest, and had it not been for the continued presence of blood in the urine little importance would have been attached to their condition. In another case of hæmorrhagic nephritis somewhat similar conditions were observed, only the attacks were paroxysmal, so that had it not been for the presence of actual blood in the urine it might have been taken for hæmoglobinuria. The patient's (himself a medical man) account of his attacks were briefly as follows. On the first occasion he had been feeling distinctly unwell three or four days before, with a vague feeling of malaise, biliousness, noises in the head and intense languor. Then came a distinct rigor, the urine became scanty and smoky in colour, exhibiting under the microscope numerous blood corpuscles mixed with numerous uric acid and oxalate of lime crystals. This state of things would continue for some days and then the attack passed off, though blood corpuscles would readily reappear in the urine on any over fatigue or indiscretion of diet. The quantity of albumen observed at any time was always comparatively a mere trace, and that not always observable in each sample of urine passed in the twenty-four hours. Before I saw him he had three such attacks and I saw him just after his last. His urine contained only a trace of albumen but many blood corpuscles and crystals of uric acid and of oxalate of lime. I should state that during the paroxysms his pulse, which was usually soft, became hard and tense. A case somewhat like this, only the hæmorrhage was more profuse I have seen from time to time during the last nine years. He was originally sent as supposed to be suffering from renal calculus, as he complained frequently of paroxysms resembling renal colic and profuse hæmaturia. That his trouble was not caused by stone was soon proved, since it was evident the paroxysm did not follow exertion, and also as soon as the hæmaturia cleared up, albuminuria persisted in considerable amount, whilst the urine contained casts of recent and old origin. In this patient the paroxysms were preceded by the same feelings of malaise as in the other patient. Both cases improved greatly when placed on a non-stimulating diet and both had a prolonged rest, the first passing a winter in Egypt, the other living for some time in a mild and sheltered spot in Ireland. The first patient reports that since his return he has rarely experienced a paroxysm, and that only at long intervals and in very slight degree. The other states that he has had no paroxysmal attack since he has developed gout freely in his knees, wrists and smaller joints. It is interesting, in considering the nature of this hæmorrhagic nephritis to bear in mind that the nephritis occurring in malarious subjects is especially distinguished by its hæmorrhagic character, caused, no doubt, by the intense congestion of the abdominal viscera. May one therefore not conjecture that the gouty poison may have a similar effect in cases where the hæmaturia is distinctly of a paroxysmal character, and that the kidney itself is the seat of a true gouty inflammation.

So far I have been considering chronic albuminuria as the result of a hyperæmia more or less active, and must now consider the albuminuria resulting from passive congestion. Of late years this has not received the attention it deserves, partly because attention has been more fixed on those chronic forms of nephritis associated with cardio-vascular changes and increased arterial tension, and partly because such cases are less numerous in hospital practice than amongst private patients. In its most complete form this albuminuria is met with as a result of valvular disease of the heart, causing what is termed 'cyanotic induration of the kidney.' So far as prognosis is concerned in cardiac disease, the appearance of albumen in the urine denotes nothing more than the increasing failure of the right side of the heart and stasis in the renal veins. But there are also other cases in which venous stasis undoubtedly plays a part in causing a chronic albuminuria independently of actual disease of the heart. These occur chiefly in middle-aged persons who either from hereditary predisposition or too free indulgence in rich food and generous wines, have become obese, especially as regards the deposition of fat round the abdominal viscera. Such individuals are of a lax constitution and usually have a feeble circulation, as a consequence of which assimilation is very imperfectly performed and they require to be well supported in order that

enough material may be assimilated by their imperfect organs to carry on the vital processes. These patients, owing to the laxity and feebleness of the muscular system, take little exercise, with the result that they become flabby and, especially the abdominal muscles, relaxed, so that the abdominal viscera are not supported and the whole abdomen tends to fall forwards. This condition, together with the little exercise taken, and the amount of food ingested, adds to the already existing abdominal plethora, and after a time these patients, who have originally sought advice for relief from some dyspeptic trouble, begin to pass albumen with their urine. At no time is this ever excessive, and can be easily kept in control by diet and hygienic measures and especially by the use of mild aperient waters. In none of the cases I have had under my observation have I noticed the development of active gout or hypertrophy of the heart or degeneration of vessels, nor are uræmic symptoms usually present. When these patients die—and they often attain old age—it is from an intercurrent attack of some acute disease. So long, however, as these patients are not exposed to any vicissitude, are well fed—for in this form of albuminuria a more liberal dietary is required—and are warmly clad, they live for many years without any apparent advance of their renal trouble. This form of chronic albuminuria is often associated with an equally mild form of diabetes, both running a course together for many years. In five cases in which I have watched the progress of this double disorder, in none did it seem to affect greatly the general health. All except one who is still living, and he is sixty five years of age, lived till close on their seventieth year, whilst the average duration of the disease in these four cases was just over twelve years. It is not improbable that the albuminuria met with in morphia *habitués* is of this congestive character, at all events, I feel disposed to accept the views of Professor Huchard of Paris on this point, although the arguments on the other side as expressed by Dr Haig are deserving of consideration.

The albuminuria associated with lardaceous degeneration of the kidneys usually runs a protracted course, so much so, that one often loses sight of the case before its termination. In four cases, however, which have come under observation whilst preparing materials for this paper—one, a medical man, had suffered from enlarged liver and spleen with albuminous urine for twelve years, the second, a medical officer in the army, had been invalided from the service fourteen years previously on account of the disease, another case was that of a woman in whom the disease seemed to have followed repeated and severe attacks of ague, contracted twenty years before when residing abroad, in a fourth case, also a woman, the albuminoid degeneration was complicated with visceral syphilis, but her illness dated back many years. In fact, the chronic albuminuria of lardaceous degeneration runs, as a rule, a protracted course unless it becomes complicated with nephritis, when the downward course is extremely rapid. This unfortunately was brought under my notice last year in the case of a member of our profession. He had suffered from albuminoid disease for twelve years till, when away for a holiday, he received a chill, and suffered subsequently from hæmaturia. From this time the character of his urine changed—it became less profuse and contained casts which had not been detected before. Up to this time he was engaged in the active duties of his profession, and felt little the worse for his chronic complaint, now he became frequently indisposed, the heart, which up to that period presented nothing abnormal, now enlarged rapidly and extensive arterial degeneration soon became evident. He usually experienced an attack of gout in the spring of each year, but none developed this year, and he died in the summer from an attack of cerebral hæmorrhage.

Lastly, with regard to the forms of albuminuria not associated with renal disease, they have but slight prognostic significance, and are mostly transient and intermittent. This is so, no doubt, during the earlier years of life, up to thirty or perhaps forty, but the occurrence, especially for the first time in middle adult life of an intermittent albuminuria is often a danger signal indicating more serious mischief to follow. There may be no evidence of changes taking place in the kidneys, no enlargement of the heart, the albumen disappearing, especially after a course of Homberg or Carlsbad waters, but reappearing on the slightest provocation, till eventually undoubted evidence of contracted kidney is present. A physician consulted me in 1880 for an intermittent form of albuminuria that seemed to follow

upon slight dyspeptic troubles, and which passed away when he paid attention to the bowels. His heart and vascular system were perfectly normal. During his sojourn in Europe he had consulted many physicians, who all encouraged him by speaking of it as "a functional albuminuria." He was then a hale, hearty man of about fifty, but within four years of that time the heart became enlarged, the albuminuria persistent and his vessels degenerated. Had, I think, more attention been paid to this premonitory albuminuria and a rigid non stimulating diet insisted on, the onset of more serious symptoms might have been delayed.

Having thus briefly and very inadequately mentioned some of the chief varieties of chronic albuminuria, I hope I have indicated that the two chief factors which have an effect in brightening prognosis and adding to the duration of life in these affections are, firstly, the earlier stage at which the disease is detected owing to systematic examination of the urine of all patients who seek advice, and, secondly, the improved system of diet now insisted on. The profession is much indebted to Sir George Johnson's teaching and his advocacy of a non stimulating diet in inflammatory affections of the kidney. This of late years has taken the form of the "milk cure," feeding the patient absolutely on milk, or if not entirely possible, with the addition only of the slightest modicum of other food and that of a non stimulating character. This so-called "milk diet" is now so generally adopted that it might be considered superfluous for me to draw attention to it in this paper. But, in spite of its general adoption, there have always been some doubts expressed as to whether its administration is equally useful in all cases, and even if it may not be deleterious in some. With a view to obtaining information on this point I have instituted for some time past a series of observations on the effect of milk diet on the different forms of renal albuminuria. These observations consisted in making an analysis of the patients' urine on admission into the hospital, and after wards gradually putting them on a milk diet (from three to four pints a day). This was continued for four weeks, a weekly analysis of the urine being made with regard to the amount of urine passed and the amount of urea, albumen and total solids. At the end of these four weeks a mixed diet was gradually resumed and another analysis made. As a result, in five cases of acute or subacute nephritis with dropsy an increase of urinary water, of urea, and a diminution of albumen were observed, which, when the ordinary diet was resumed, showed a tendency to relapse. In two cases of albuminuria associated with cardiac complication a slighter improvement was manifested. With one well marked case of albuminoid degeneration the milk diet was distinctly unfavourable, so that after a fortnight's trial it had to be discontinued and a more generous dietary adopted, with distinct benefit to the patient. In three well marked instances of contracted kidney with marked vascular degeneration the milk diet was not at all well borne by the patients. In one case, on the second day of its trial the patient was seized with severe uræmic convulsions, and in the other two aggravation of already existing uræmic troubles became more pronounced on a persistence of an enforced milk diet, whilst in all three an improved condition was noticed when a more solid dietary was resumed.

From these observations amongst hospital patients and from the experience obtained from private patients I have come to the conclusion that the best results are obtained from the milk diet in cases of acute or subacute nephritis in which the diuretic action of the lactose in the milk increases the flow of urine and relieves the dropsy, whilst in cases where degenerative changes have taken place, with an already failing heart, it is better to give a more solid and more stimulating food than milk, care being taken at the same time that it is easily assimilable and not highly nitrogenous. To my own mind the employment of an exclusive milk diet in chronic nephritis is positively injurious after degenerative changes have manifested themselves, yet in the earlier or more acute stages of the disease it must form the basis of treatment, and if it cannot be persisted in should be employed either in a modified form or resorted to whenever an exacerbation occurs.

Queen Anne street, W.

ON Saturday last a purse of gold was presented to Dr Mackay by his friends on his leaving Hornby for Knaresborough, as a public testimonial of their appreciation of his services during the past five years.

SOME SURGICAL AFFECTIONS OF THE HAND¹

BY WILLIAM HENRY BATTLE F.R.C.S. ENG.,
ASSISTANT SURGEON TO ST THOMAS'S HOSPITAL SENIOR ASSISTANT
SURGEON TO THE ROYAL FREE HOSPITAL.

THE cases on which the following remarks are founded form a group of considerable interest, some of them having received very little or no attention at the hands of surgical writers, though possessing, also, much importance. In order to prevent unnecessary repetition it may be stated that when operation was performed for any of the conditions described carbolic lotion (1 in 40) was used for the instruments and for cleansing the part before incision was made, and perchloride of mercury solutions and sal alembroth gauze dressings, with wool, for the wounds. In no case did any abnormal rise of temperature follow on operation, nor was there any complaint of pain. Esmarch's bandage was invariably employed to render the part bloodless during the course of the operation.

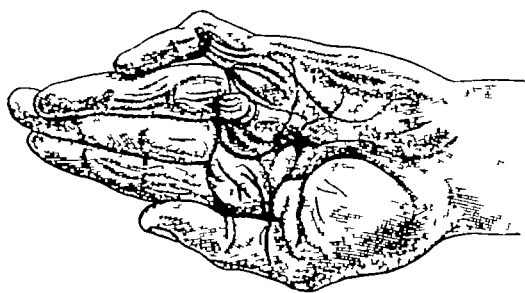
Dupuytren's contraction of palmar fascia.—A pianoforte player aged fifty eight was admitted under my care on Oct. 29th of last year into the Royal Free Hospital for deformity of the hands. There was no history of gout or rheumatism, or of a similar condition in any other member of the family. With the exception of an attack of bronchitis ten years ago he had always been healthy. He used to tune pianofortes, and at one time, up to about fifteen years ago, was accustomed to use a tuning key, which he had to press into the palm of the right hand, there was no history of pressure on the palm of the left hand. Fifteen months before admission the patient noticed that the little finger of the left hand was slightly flexed, whilst there were also slight rigidity of the ring finger and several thickenings in the palm. This condition had gradually become worse. The middle finger of the same hand and the little finger of the right hand had only been affected during the last two or three months.

On admission, three fingers of the left hand were affected. The metacarpo-phalangeal joint of the little finger was freely movable but the first phalangeal joint was flexed to little more than a right angle and had only very limited movement. There was a hard thickening of the fascia opposite the first internode and another opposite the first phalangeal joint. A thick band extended from the centre of the palm to the ring finger, which was slightly flexed at the metacarpo phalangeal joint, this could be extended when the first inter phalangeal joint was flexed. There were two hard nodules opposite the first internode. The middle finger was only slightly affected, a thin band extending from the palm to the ulnar side of the base of the second phalanx. The right hand was not nearly so much affected. There was a hard lump on the ulnar side of the palm and a tight band stretching to the little finger, the metacarpo-phalangeal joint of which was slightly flexed. Opposite that joint was another thickened lump. A narrow band extended from the palm to the middle finger, the movement of which was not affected, and in the palm there was a thickening in the part of the fascia corresponding to that finger. Fig 1 shows well the puckering, thinning and adhesions of the skin to affected fascia, also the large nodular thickenings of the affected fascia of the left hand, it is taken from a cast of the hand. Ten days after admission he was placed under the influence of ether and after careful preparation of the hands operation was performed after the method known as multiple subcutaneous puncture (Adams). The left hand was first treated, three punctures were required in the palm at different spots to free the ring finger and one opposite the first internode of the little finger, which it once allowed of its complete extension. Another was made through the thick band which passed along the ulnar side of the middle finger. In the right hand two punctures were made, one a little above the metacarpo phalangeal joint of the little finger another opposite the same joint of the middle finger. The fingers of both hands were now freely movable, and could be completely extended. Splints were applied on the dorsal aspect of both hands. He had some pain described as itching in the hands, on the night following the opera-

tion, but no sickness from the anæsthetic. A note was made on Nov 7th "The dressings were taken off to-day and the punctures were found to be healed. The patient can extend all the fingers fully and plays the piano easily." I may say here that he then informed me for the first time that he had not been able to stretch an octave for more than eight years, and evidently enjoyed the increased freedom given to his movements. He was told to wear a splint at night for some months to come. The fibrous nodules which were so marked in this case had considerably diminished in size when he left the hospital on Nov 16th, and their complete absorption is apparently only a question of time.

There are many points of interest in this case to which I should like to draw attention. The patient was an exceptionally healthy man for his years, without family history of gout or rheumatism or anything in the nature of disease which might be considered predisposing to the affection from which he suffered. As he had been a pianoforte tuner for a long time, the question suggested itself as to whether his occupation might not have produced the necessary change in the hands, frequent use of the tuning key being in his case the exciting cause of the contraction of the fascia. It was found, however, that the disease commenced in the left hand and was most marked there, whilst the right was the hand which he always employed in tuning. My colleague, Mr Anderson, in his Hunterian Lectures, remarked that his investigations negatived the view that mere friction and pressure of the palm by tools or other objects habitually held within the hands can account for the disease. With regard to constitutional condition as influencing the occurrence of the deformity various investigators have given different opinions, some saying that gout is the cause (Dr Keen gives forty two out of forty eight cases as gouty;

FIG 1



Mr Adams calls it gouty thickening of fascia) others say it is of neuropathic origin, whilst rheumatism, rheumatoid arthritis and alcoholism have been cited with authority as the diseases on which its formation is dependent. The case of this patient would lend support to the opinion that, although a history of these various conditions may be present, the deformity is not dependent upon them, yet one would not attempt to deny that, granted the introduction of some cause for inflammation of the part, such constitutional states would render the process thus started of a more persistent and intractable character. I will again quote the excellent lectures of Mr Anderson. He writes "The situation of the initial lesions and the peculiar tendency of the new growth to feed, like a parasite upon the tissues in which it spreads and which it replaces have led me to believe strongly that the active agent of destruction is a specific micro organism, which gains access to the subcutaneous tissues through accidental lesions of the epidermis, mostly effected by the finger nails. This would explain far better than any existing hypothesis the persistent causes of the disease and its proneness to recur after the most skilfully devised operation. The almost constant limitation of the disease to the declining years of life corresponds mainly to lessened resistance in the bodily organism, and partly perhaps to senile absorption of the palmar fat cushion. The almost complete immunity of the foot is accounted for by the protection afforded by the shoes and stockings and the impossibility of contact of the toe-nails with the sole. Individual and inherited susceptibilities are exemplified here as in other complaints of known bacterial origin. Lastly, the absence of the affection in certain countries may be due either to the absence of the specific organisms or to antagonistic influences

¹ Abstract of a paper read before the South London Branch of the Metropolitan Counties Branch of the British Medical Association.

developed in the constitution by racial, climatic, dietetic and other conditions." The examinations of the affected fascia have not, so far as I am aware, yielded any definite result, but they have not proved that this view is *not* the correct one. They are being continued, and it is very likely may ultimately enable us to say that the specific form of Dupuytren's contraction is due to the entrance and slow development of a definite form of bacillus. The disturbance or inconvenience caused to the patient by the operation was so very slight and the result in increased movement of hands and fingers so immediate and great, that there need be no surprise at the gratitude of the man for what is to him an almost marvellous result. I do not consider that the operation has cured the patient, it has for a time, but he has been fully impressed with the necessity of continuing treatment by means of splints for many months. Taking the view that I do of the possible origin of the deformity and his good previous and family history, I have not told him to alter his ordinary routine of life or take any medicine to combat gout or rheumatism. I would draw attention to the condition of the fascial nodules so marked in the casts.

Trophic changes due to the pressure of a cicatrix in the palm—Wounds of the palm of the hand involving injury of important nerves are not infrequent. The case to which I now draw attention simulated wound of the median nerve in the palm very closely, and the hand exhibited trophic changes commonly seen after the normal innervation of a part has been seriously interfered with. A watchmaker aged forty-eight came under my care on Jan. 20th, 1890, complaining of numbness and tingling in the fingers and thumb of the right hand. Four months before he had broken a thin glass vase by striking it against a clock with the palm of the right hand. There was considerable hæmorrhage, and one piece of glass was removed from the palm of the hand at the time. The wound healed readily. There was then no impairment of sensation or motion. A month later he was pushing some furniture when the scar gave way and bled, a small piece of glass protruded and was extracted by the man himself. A month after that he found the hand getting stiff, and he began to have numbness and pins and needles in it, and this had been steadily increasing since, so that the man had not been able to follow his occupation. Examination of the right hand showed some swelling of the fingers evenly distributed, the skin looked more shiny than on the other hand and the furrows were a good deal smoothed out. Over the distal phalanx of the first finger there was a good deal of swelling, and on the anterior surface were three sores, the two lower being covered with dried secretion, from the upper one serous fluid exuded on pressure over the top of the finger, where there was a largish blister. The skin of this upper part of the first finger was discoloured and bluish. The thenar eminence was wasted. The patient complained of numbness and occasional pins and needles in all the fingers and in the palm for about an inch, the more proximal part being normal and the transition from the normal to the abnormal area being gradual. Only the front and tip of the last joint of the first finger were absolutely insensitive. There was a small scar between the thenar and hypothenar eminences an inch below the wrist, immediately below this scar there was a slight prominence, and when this was pressed, especially if pressure was directed upwards, the patient complained of tingling in the fingers and pricking at the point of pressure. Four days after admission an incision about two inches and a half long was made over this scar in the line of the median nerve, commencing about half an inch above the wrist and continued into the palm. A good deal of very dense cicatricial tissue was met with at the lower border of the annular ligament, but no glass or other foreign body was found. The annular ligament was divided, and the median nerve, especially the palmar enlargement and the branches from it, carefully examined. It appeared quite normal, it was considered, however, that the palmar enlargement was more flattened than it should have been, and as the most dense part of the cicatrix corresponded in position with it a piece of the scar tissue was removed from each side of the incision. About six fine silk ligatures were required for small vessels. The annular ligament was united by four deep silkworm gut sutures and the superficial part of the wound by interrupted silk sutures, in the usual manner. No drainage tube was used. The wrist was semiflexed and placed in an anterior splint.

Eight days after the operation a slough was found at the end of the index finger. The wound healed by first intention, and when the man left hospital on Feb. 8th the sores on the index finger were nearly healed. He presented himself once

at a later date, the skin was then recovering sensation in the parts previously numb, the sores had quite healed and the colour of the first finger was becoming the same as that of the others. There can be little doubt that the trophic changes in the hand were due to compression of the median nerve by the cicatrix which followed the wound of the palm. The gradual onset and steady increase in severity of the changes until, and for a time after, the operation point to this conclusion, which is further confirmed by the result of the operation.

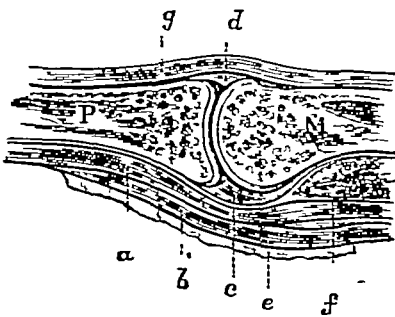
Myeloma of tendon sheath—This case is one of tumour of a tendon sheath. Apparently simple in character, it presented a structure after removal and examination under the microscope which proved it to be of unusual composition. The patient was a female servant aged seventeen, who was admitted into the Royal Free Hospital under my care on Nov. 12th, 1892, complaining of a swelling of the first finger of the right hand. There was nothing of importance in the family or previous history of this patient, she had noticed a swelling in the situation of the tumour for the past five years and it had gradually increased to its present size. It had not caused her any pain, but was inconvenient as it interfered with the use of the hand. On the flexor surface of the first phalanx of the index finger of the right hand was a tumour about the size of a chestnut, not very hard, but firm in consistence and containing two hard nodules. Somewhat oval in outline, it extended from the first interphalangeal joint to the palm, and bulged equally to the sides. The tendon was quite free and the finger movable. The tumour could be moved from side to side, but not in the long axis of the finger. It did not appear to grow from the bone and was not at all sensitive. It was considered to be a soft fibroma having its origin in the tendon sheath. On the 14th it was removed through a longitudinal incision along its flexor surface. The superficial part was easily separated, being encapsuled, but it was more difficult to get the growth away below. It had, as was rightly supposed, its origin in the tendon sheath, some of which had disappeared in the tumour, whilst in another part dense bands from the sheath passed into it and assisted in holding it down. A prolongation of the tumour extended round the tendon and completely encircled it. The tumour was also adherent to the fibrous tissue of the sheath on each side of the tendon, and these attachments had to be cut away, there being nothing to mark the point at which the tumour ceased. After its removal about half the tendon lying over the first phalanx was exposed in the wound. Only one or two small vessels required to be ligatured, and the wound, which was closed with silk sutures, healed by first intention. The finger for a fortnight was swollen at the seat of operation on account of some effusion of blood into the wound, but movement has been permitted, which does not cause pain, and she can fully flex and use her finger, the only sign of anything abnormal about it being the presence of some thickening and a linear scar. The tumour is a lobulated soft growth in the greater part, but presenting two or three areas of yellowish change, and of harder consistence, resembling cicatricial tissue. The prolongation which encircled the tendon is of softer growth and more vascular and can still be seen to form a tunnel with the main growth, through which the tendon passed. Examination under the microscope shows the tumour to consist mainly of fibrous tissue, but scattered through the section are a number of well marked myeloid cells. Tumours containing myeloid cells such as that described here are very rare, if one may trust the published reports of microscopical examinations, and it is very interesting to find that such cells may be found in growths which have no connexion with bone or periosteum. Fibrous tumours of the tendon sheaths, from which these cannot be distinguished clinically, have frequently been brought before the Pathological and other societies, but I can only find an account of one myeloma in English literature. In a paper by Mr. Makins on Some Intra-bursal Growths, read before the Pathological Society in November, 1886, he refers to a specimen which he removed from the tendon of the middle finger of a girl of twenty. It was of three years' growth, not painful when pressed upon, and on removal looked like a typical hard fibroma. It reached to the posterior aspect of the sheath and was removed without baring the tendon. On section he found scattered myeloid cells. More recently M. Heurtaux, in an account of these myelomata, has given five cases, three of which had been under his care. They presented characters similar to those met with in the patient

under notice, were lobulated, mostly soft, grew from the sheaths of the flexor tendons in young people, were all situated on the right hand, increased but slowly in size, and do not appear to have recurred after removal. They are evidently innocent growths, to be distinguished from the sarcomata.

Backward dislocation of the finger on the metacarpus—Having recently had under treatment a case of complicated dislocation of the forefinger, I would draw attention to it, for although such cases are apparently rare I am not sure that they do not occur more frequently than is supposed and that the patient has to be satisfied with a crippled hand in consequence of a want of appreciation on the part of the medical attendant of the reason why these dislocations are sometimes not reducible by ordinary means. This is not surprising, for the text-books are quite silent on the subject. There will be found a long description of the dislocations of the thumb and the way in which it is recommended that they should be reduced, also an account of the supposed pathology of the injury, but most commonly the real cause of the difficulty in reduction in such cases, the part played by the glenoid ligament, is not touched upon. The case was that of a girl aged eleven, who came to the out-patient department of St Thomas's Hospital on Feb 1st of this year with an unreduced dislocation of the left forefinger, the result of a fall five weeks before. She had been placed under chloroform soon afterwards, an attempt had been made to reduce it, and it was supposed at the time that the attempt had been successful. The hand was placed on a splint, but on the removal of the splint swelling of the joint was still present, with pain on

the results of further investigation and experiment, all confirming the opinion that the glenoid ligament of the joint is the cause of the difficulty in reduction. This glenoid (see Fig 2) or anterior ligament, a very dense structure, occupies the interval between the lateral ligaments on the palmar aspect of each joint, it is a thick and dense fibro-cartilaginous structure, which is firmly united to the phalanx but loosely adherent to the metacarpal bone. It is continuous at each side with the lateral ligaments, so that the three form an undivided structure which covers the joint except on the dorsal aspect. Its palmar surface is grooved for the flexor tendon, whose sheath is connected to it on each side. The other surface, looking to the interior of the joint is lined by synovial membrane and supports the head of the metacarpal bone. The weakest part of the ligament is the point of attachment to the metacarpal bone, and it is here that it ruptures when the finger is dislocated. These backward dislocations have been divided into three kinds (1) simple incomplete dislocation, the phalanx not having completely left the head of the metacarpal, (2) simple complete dislocation, in which the phalanx has become displaced on the dorsum of the metacarpal bone and rests with its anterior edge on the neck of the metacarpal, (3) complex dislocation (see Fig 3), in which the phalanx occupies a similar position, but the glenoid ligament with its sesamoid bone has become turned and is interposed between the bones rendering the dislocation irreducible. The treatment which should be carried out in these dislocations is usually easy if the surgeon who first sees the case recognises the importance of the glenoid ligament and remembers its relationship to the phalanx. An attempt to reduce without chloroform by what

FIG 2.



Section through metacarpophalangeal joint (after Henle).
M Head of metacarpal P First phalanx. a Tendon of flexor profundus digitorum. b Flexor sublimis digitorum. c Glenoid ligament. d Posterior ligament (absent according to Gray). e Sheath f Interosseous ligament. g, Tendon of extensor communis digitorum.

attempted movement, and when she was seen in the out-patient department there was still a typical dislocation at the metacarpophalangeal joint. The finger was shortened, the phalanx forming a projection on the dorsum of the hand, the head of the metacarpal bone was prominent and easily felt in the palm, the parts were swollen, somewhat red and very tender. She was admitted into the hospital, and on the following day I attempted—the child being under chloroform—to reduce the displacement by manipulation but could not do so. A strong sharp-pointed tenotome was then passed into the joint to the outer side of the tendon, under the phalanx to the middle of the dorsal surface of the metacarpal head, and being then withdrawn on the bone, the knife divided intervening structures to a point just above the neck of the metacarpal. On flexion of the finger a slight snap was heard, probably due to the giving way of a small band of the glenoid ligament which had not been divided, and the dislocation was reduced. The hand was then placed on a splint.

I published a paper in THE LANCET of Dec 22nd and 29th, 1888, on Backward Dislocation of the Fingers on the Metacarpus, and entered fully into the literature, pathology and treatment of these displacements. The conclusions to which I came were confirmatory of the investigations of some other surgeons. Mr J Adair Laune appears to have first pointed out the rôle played by the anterior ligament in these dislocations in 1837, but his observation does not appear to have attracted much attention. More recently MM Farabeuf, Palailon, Jalaguier and others, including Dr Otis, have published

FIG 3.

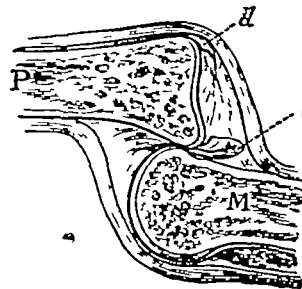


Diagram to illustrate position of misplaced glenoid ligament. Antero-posterior section. M Metacarpal bone P, Phalanx. c, Glenoid ligament. d Ruptured dorsal ligament (occasionally present).

is known as the dorsi flexion method should first be made, the phalanx is tilted up until it stands upon its articular end and both forefingers are placed so as to hold it in that position and at the same time press it against the distal extremity of the metacarpal bone. Under firm pressure with the thumbs against the base of the displaced phalanx it can generally be easily slid into position. It is a good plan to keep up extension on the finger and draw the base of it backwards on the dorsum of the metacarpal, so that the anterior edge of the phalanx may get well behind the ligament, to let it touch the metacarpal and afterwards press it forward. Should this not succeed, chloroform ought then to be given, and if manipulation again fail simultaneous section of the ligament should be effected, as in this case. In old standing dislocations the joint should be opened at the side and the adherent ligament separated with the point of a knife—a procedure which I have carried out with success. It is my opinion that the complicated cases of dislocation of the thumb are most frequently due to the separation displacement and doubling up on the neck of the metacarpal bone of this glenoid ligament and that similar treatment is usually indicated. The presence in it of two sesamoid bones in the case of the thumb should be recollected if section of the ligament be required, the incision being made strictly in the middle line.

Flexor ganglion.—There is another condition to which I should like to draw attention, and that is a somewhat rare form of ganglion of the flexor tendons of the fingers—one which is peculiar in many ways and which (although I believe fully recognised) has not received that amount of attention at the hands of writers on surgical

subjects that it appears entitled to from the amount of annoyance and even actual distress to which it occasionally gives rise. A patient will sometimes come for relief on account of a painful place in the palm of the hand, and usually of the right one, perfectly well localised and much increased by attempts at grasping anything, such as the handle of a door, in order to open it. The pain will have existed for a variable time, and usually for a shorter period the patient will have noticed a swelling at the painful spot. On examination it is perhaps not easy at first to find any swelling, but if the finger be flexed and careful examination made where most tenderness is felt a rounded body will be found, not so large as a pea, well defined, very hard, and attached by a pedicle to the deeper parts just at the point where it is known that the sheath of the flexor tendon of the index finger terminates in the palm. I say "sheath of the flexor tendon of the index finger," for it will almost invariably be found in connexion with the sheath of this tendon and not with that of either the middle or ring finger, though it may possibly be there. This swelling is so exceedingly hard that the diagnosis, which is generally made by those who have not previously had their attention drawn to these ganglions, is that of fibroma or enchondroma of the hand. Enchondromata, however, are quite immovable and develop laterally, not towards the palm, besides, they are not painful or particularly tender, and are multiple, whilst these ganglions are, so far as my experience goes, invariably solitary. Situated in the palm of the hand at a point where nearly all bodies are touched when grasped, it is no wonder that much pain is produced by even ordinary use of the hand, so much so some times as to compel the patient to use it as little as possible. If these apparently solid bodies be cut down upon, they will be found to permit of easy separation from surrounding parts, excepting where the pedicle is attached, pear shaped and cystic. The wall of the cyst is composed of fibrous tissue of a varying thickness and of considerable strength, contains fluid like that usually met with in ganglia, and communicates by means of the hollow pedicle with the interior of the tendon sheath, the lining of which is continuous with it. Why these ganglions sometimes develop it is not possible to say, the part of the sheath from which they spring is certainly much exposed to pressure, but these ganglions are rare and pressure alone is insufficient, even if violent and intermittent, otherwise they would be much more common. Perhaps there is some degenerative change in the sheath disposing to weakness and yielding under pressure, so permitting of a hernial protrusion. I have met with a similar swelling in the forefinger of a laundress, situated at the line marking the junction of the palm and the right index finger on the flexor aspect. In this case there was no chance of verifying the diagnosis, for the woman, who was in bad health, refused to have anything done, although she complained of excessive pain and the hand was almost crippled, but it was probably of the same nature. In the case of these ganglions I do not think one can do better than cut down on them, separate them from surrounding parts and cut across the pedicle where attached to the sheath. An incision about an inch long in the line of the flexor tendon directly over the swelling, with retraction of the soft parts, usually gives ample room and enables the cyst to be removed without bruising or undue disturbance of the parts. In some cases doubtless a severe blow or strong pressure over the cyst will rupture it, but the immediate result is very painful and in those of any long duration unlikely to succeed. A curious instance of at least the temporary cure of a case came under my observation some years ago. A girl aged about sixteen was coming to have a cyst of this kind removed by operation, but when about to descend from a tramcar the horses suddenly started, and she, forgetting the painful hand, made a violent clutch at the rail of the car to save herself from falling, felt severe pain in the situation of the cyst, which caused her to scream out, and found that the swelling had disappeared. No trace of it could be felt by any of us when she showed the hand soon afterwards, and she has not come under observation again. Here the cyst was only of the duration of a month or two, and the walls very likely only consisted of thin membrane.

Whilst on the subject of these rarer kinds of cyst arising from the flexor sheaths, I will give short notes of a case in which two more like those seen about the wrist developed on the flexor surfaces of the index and middle fingers. The patient was sent for my opinion as to the advisability of submitting to amputation of the end of the right forefinger on account of a lump which had been

painlessly growing in the pulp for a period of six months and which was still increasing in size. She thought that it had commenced in the skin, for it was movable at first, but lately it had become more fixed. There was a rounded, fluctuating swelling which caused a uniform enlargement beyond the line of the last interphalangeal joint, and was quite fixed, tense and fluctuating. This I considered to be a cyst, possibly connected with tendon sheath. Gas was administered and a lateral incision gave exit to glairy fluid, the cavity, lined by a glistening membrane, contained no growth and extended deeply to the periosteum. It was washed out with a carbolic solution and firmly wrapped with a strip of antiseptic gauze. Ten days later she told me that she thought there was another and a similar swelling in a corresponding position in the middle finger, this was so, and similar treatment, without anæsthetic, was carried out. Both these cysts were cured by this treatment.

Manfield-street, W

A CASE OF RUPTURE OF THE OESOPHAGUS

By BRIGADE SURGEON LIEUTENANT COLONEL C E HARRISON, M B LOND, F R C S ENG, GRENADIER GUARDS

A WAR OFFICE superintending clerk aged forty seven came under my care on Jan 3rd complaining that he had attacks of vomiting at intervals of three or four days, and eructation of fluid into his mouth. He had on previous occasions been under treatment for dyspeptic symptoms. The history was as follows.—He had been losing flesh for about six months, and his appetite had rather failed of late. On Dec. 20th, 1892, he had an attack of diarrhoea and, following this, the vomiting and eructation of fluid, for which he sought advice. The amount of fluid rejected on the occasions when he vomited was considerable and led to the opinion that there was some dilatation of the stomach, and possibly some obstruction to the passage of food from the stomach into the duodenum. The patient himself was conscious of this and described the sensation which he felt of the food gradually collecting in the stomach until it was rejected by vomiting. The loss of flesh gave ground for suspicion of malignant disease. The abdomen was not distended, and on careful examination no tumour or enlarged glands could be felt. On palpation over the stomach splashing sounds could at times be heard. He suffered no pain and had never vomited blood. A microscopic examination of the vomited matter revealed no blood or sarcinae. The tongue was generally clean, or slightly furred after an attack of vomiting. The urine was natural, and the bowels acted regularly. The heart-sounds were clear and nothing of importance could be detected in the lungs. A mixture containing bicarbonate of potash, bismuth, nuxvomica and gentian was ordered to be taken before meals. On the afternoon of Wednesday, Jan 18th, he vomited whilst at his work, and the vomiting was repeated several times during the evening and night. On the following day (19th) an examination of the abdomen revealed nothing fresh, but he was directed to remain quiet in bed. About 3 P.M., having swallowed some milk arrowroot, the vomiting recurred, and whilst in the act of retching and vomiting he was seized with sudden and intense pain in the lower part of the left side of the chest. He remarked to his wife that he felt that something had burst in his stomach at the time the sudden pain occurred. This was followed by collapse of a marked character. Warmth was applied to the abdomen and lower part of the chest and he rallied somewhat. The pulse remained rapid and weak, and hurried respiration with some difficulty in breathing appeared. The tone of his voice was altered, being of a higher pitch than was natural to him. The temperature was subnormal. Towards midnight subcutaneous emphysema of the neck, cheeks and upper part of the chest developed. On examining the chest the area of cardiac dulness was observed to have disappeared and this region and the upper part of the left lung were found to be hyper resonant on percussion. Respiratory sounds were feeble, though present over the left lung in front and exaggerated over the right lung. The possibility of a chronic gastric ulcer having led to a perforation of the diaphragm into the mediastinum suggested itself as an explanation of

the subcutaneous emphysema of the neck and face. A small hypodermic injection of morphia over the seat of pain gave relief and afforded some sleep. The emphysema, however, gradually increased, the pulse became weaker, and the patient died at 4.30 A.M. on Jan. 20th, about thirteen hours and a half after the sudden access of pain and collapse.

Necropsy thirty-two hours after death.—There was very marked subcutaneous emphysema of the face, neck and upper part of the chest. The emphysema could be detected as low as the groins. The abdomen was distended and tympanic. On incising the left side of the chest there was a rush of air from the left pleural cavity. The left lung was seen to be partially collapsed. Each pleural cavity contained about a pint of dark grumous fluid, having the odour and appearance of the contents of the stomach. There was air in the loose areolar tissue of the mediastinum, as also here and there in the subpleural tissue. On the right side of the chest some old pleural adhesions were found, as well as a small cheesy nodule in the right lung. On the left side the lower portions of the pleural surfaces were hyperemic and in an early stage of inflammation. On lifting forward the lungs the loose areolar tissue around the lower part of the œsophagus in the posterior mediastinum was found discoloured and distended with the same dark fluid which had found its way into the pleural cavities. The œsophagus having been cut across high up in the chest and then carefully slit up with scissors a longitudinal rent an inch and a half long was found in its walls just above the diaphragm. The edges of the rent were sharply defined and gave no evidence of induration or of a pre-existing ulcerative or degenerative process. They bore no indication of post-mortem softening. No constriction or dilatation of the œsophagus existed, and no pouch or thinning of its walls could be detected. The heart was small but healthy. The stomach was rather dilated and was also distended, as were the intestines, with air. There was no evidence of post-mortem digestion of the walls of the stomach, which contained some thick dark fluid of the same character as that found in the pleural cavities. At the pyloric orifice a small nodule of carcinoma was found, and the whole circumference of the orifice was more or less thickened and indurated by the disease, which affected chiefly the posterior surface. The liver and spleen were small. There was nothing abnormal detected in the kidneys. The perforation, therefore, which had caused the sudden collapse and had given rise to the subcutaneous emphysema had occurred in the lower part of the healthy œsophagus immediately above the diaphragm, and had thus allowed, during the act of vomiting the entrance of air and fluid from the stomach into the posterior mediastinum and the pleural cavities.

Pearls.—Rupture of the healthy œsophagus is an accident of such extreme rarity that the details of such a case are worthy of record. This subject is dealt with minutely in a very interesting article in Von Ziemssen's 'Cyclopædia of the Practice of Medicine,' vol. viii. page 99. In this article he states that the number of well established cases i.e. 'those in which the symptoms during life, together with the post-mortem discoveries distinctly prove that the rupture of the œsophagus found at the necropsy took place during life and must be considered as the only cause of death,' amounts to nine. The references to these cases are given as follows: Boerhaave, *Atrocis nec descripti pntis Morbi Historia*, Lugdunum Batavorum, 1724; Dryden, *Medical Commentaries* Edinburgh, 1788, vol. iii. p. 308; Oppolzer, *Wiener Medicinische Wochenschrift* 1851, p. 65; Habershon, *Pathological and Practical Observations on Diseases of the Alimentary Canal*, London 1857 publishing the report of a case by Mr Comley (this case is also published in Guy's Hospital Reports April 1843, vol. i., p. 113); Jos Meyer *Medicinische Vereins-zeitung in Preussen*, 1853, Nos. 39, 40, 41; Granatzki, *Königsberger Inaugural Dissertation*, 1867; Griffin, *THE LANCET* Sept. 4th, 1869, p. 337; Charles *Dublin Quarterly Journal of Medical Science* 1870, vol. i. p. 311; and Fitz, *American Journal of Medical Sciences* Jan. 1877, p. 17. The last named paper by Fitz, besides the very full report of the case which forms the subject of his communication, contains also an almost complete account of all the reported cases. He criticises them most minutely and as a result of his study of them he only admits two or three as belonging properly to the list. Boerhaave appears to have reported the first case—viz. that of the great Admiral Baron Wassenaar in 1724. A full and interesting account of it will be found in Von Ziemssen's article. The rupture resulted whilst straining in the attempt to relieve the stomach

by vomiting and the symptoms and post mortem appearances were almost identical with those in my own case. The accident occurred suddenly in all the reported cases and was brought about in two of them by violent retching in order to remove a morsel of food caught in the œsophagus or pharynx, and in the other cases was preceded by nausea and vomiting or attempts at vomiting. Von Ziemssen remarks: "From a diagnostic point of view a very important symptom is the almost constant appearance of a rapidly developed emphysema of the skin, which, appearing first on the neck above the clavicles soon extended over a large area and sometimes involved the whole surface of the body." Of eight cases there is but one in which it is not alluded to. The ninth (Oppolzer's) cannot be considered in this analysis of symptoms on account of its lack of all particulars. Dyspnoea, sometimes orthopnoea and great distress, followed the sudden onset in the cases reported and the pulse became much accelerated. With a continuous increase of all the symptoms death generally occurred in less than twenty-four hours (seven to nineteen) in one case after fifty hours and in another on the eighth day. In all the cases a rent was found in the œsophagus and always in the lower part of the canal. In Boerhaave's case the œsophagus was torn completely across, but in all the others the rent was longitudinal. In none of these cases was any tissue change found at the seat of the laceration which could be considered as a remote cause of the accident and each case must therefore be looked upon as the rupture of a healthy œsophagus. Fitz, as before remarked, rejects nearly all the published cases and would explain the occurrence of the pneumothorax and subcutaneous emphysema as probably due to a rupture of the air passages during the violent straining, and the presence of the contents of the stomach in the pleural cavities as due to post mortem digestion of the œsophagus. He considers that for rupture of the œsophagus two factors are essential—viz., the impaction of a foreign body in the canal and the exercise of great muscular force in the attempt to remove it. Von Ziemssen, however, cannot adopt the views of Fitz and accepts the nine published cases as authentic. He explains the occurrence of the rupture by the theory that a weakening of the walls of the œsophagus takes place—as has been proved to occur also in the stomach in very similar conditions—by a process of œsophago-malacia. He remarks after sketching the prominent symptoms and post mortem appearances, that "although the symptoms are totally unexplained by the supposition that the rent in the œsophagus took place merely in consequence of post mortem softening it seems wrong while fully recognising the propriety of a profound scepticism in the presence of such unusual occurrences, totally to deny the existence of rupture of the œsophagus during life so long as there is any possibility of explaining it. Now it is scarcely credible that an œsophagus with tissues intact could be lacerated merely by its own contraction or by traction exercised by neighbouring parts (diaphragm, stomach) nor could we accept this explanation even for the cases (Meyer Fitz) in which a not very large morsel of food engaged in the canal brought on violent contractions. Accordingly instead of rejecting them, we feel justified in believing that all these cases of so-called spontaneous rupture of the œsophagus may be referred to an antecedent vital œsophago-malacia—arising whilst the patient is in a healthy condition—very rapidly developed by special circumstances or surroundings." He adds "We shall not go wrong in considering that atony of the muscular tissues of the œsophagus and cardia caused by the habitual use of emetics and a tendency to regurgitation forms the disposing cause of rupture."

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NOTES ON THE THERAPEUTICS OF EXALGINE

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So much has been written of late in respect of the analgesic properties of exalgine (methyl acetanilide) that I have been induced to give it a trial in suitable cases with results which seem to me to warrant their being placed on record. It appears to be generally recognised that exalgine is of great service in the treatment of neuralgic pains of a functional nature, and my own experience in this respect has

mply confirmed that of other and independent observers, but as most of the earlier cases under my own observation present no essential difference in their character or course, one or two doses of the drug almost invariably procuring immediate relief, I need only refer to one or two of the more typical

CASE 1.—A young woman aged twenty three came to me suffering from supra orbital neuralgia on the left side, which she described as of extreme severity during the paroxysms. She begged me not to prescribe quinine for her, as on previous occasions, instead of affording relief, its administration had been followed by distressing headache and giddiness. I ordered a two grain dose of exalgine to be taken immediately, the dose to be repeated every four hours while the pain lasted. The patient called the next day to inform me that the pain had disappeared within an hour of the first dose and had not since returned. She promised to return should it recur, and as I heard no more of her I am justified in assuming that the relief was permanent.

CASE 2.—A very nervous, excitable patient, aged sixty, a chronic dyspeptic, and a sufferer for many years from prolapsus uteri. She had been under my care off and on for the previous nine months, and on the last occasion she came to me complaining of unbearable pain at the top of the head, worse at night and interfering with sleep. There was some tenderness of the painful area, and she attributed her condition to an excess of family worries. I ordered one grain of exalgine three or four times a day, and on the occasion of her next visit she expressed her gratitude for the relief that had followed the first three doses both in respect of the pain and of the insomnia. When, however, she left off taking the medicine the symptoms returned, but on resuming the treatment she again experienced almost immediate relief. She asked my sanction to her keeping some of the medicine by her in case of any further trouble of the kind.

CASE 3.—This patient was aged twenty five. In the fifth month of her second pregnancy she came to me complaining of intense supra orbital neuralgia, to which she had been subject for the last three months. A single dose of exalgine at once stopped the pain, which, however, returned in a few hours, when a repetition of the dose again afforded immediate relief. She has since remained free from pain.

CASE 4.—A nervous emotional girl aged nineteen of the neurotic type. Menstruation was irregular and scanty and she complained of rather profuse leucorrhœa. She came to me on account of violent pain at the vertex with a sensation "as if something were creeping about inside the skull." I gave her one grain doses of exalgine to be taken three times daily and within two days the feeling and the pain disappeared entirely. She was then put on Bland's pill, but the headache at once returned, yielding, however, to a few more doses of exalgine. Since then this patient has had one or two recurrences of the symptoms, which, however, have invariably yielded to a few doses of the drug.

The encouraging results in these and other similar cases of pain of a neuralgic character, associated or not with other subjective symptoms or sensations, induced me to try exalgine in a number of cases of mental disease associated with similar subjective phenomena, some in an incipient and others in an advanced stage. Though perhaps the treatment may be considered empirical I think the effects justified its employment. I append notes of the more interesting of these cases.

CASE 5.—A young woman aged twenty eight first came under my care in May 1892. She then complained of mental depression and I gathered that she often wandered about London all day having no settled purpose and she was obviously unable to confine her attention to any given subject. She experienced constant pain across the forehead and in the eyeballs and a bright light caused acute discomfort. Her aspect was melancholy and suspicious, but she did not seem subject to any actual hallucinations or delusions. She was treated for a time *secundum artem* with the bromides, the ammonio-citrate of iron iodide of potassium &c., and all proved equally inefficacious. On Aug. 15th I prescribed for her one grain doses of exalgine to be taken three times daily. On Aug. 29th she returned, saying that she had been much better ever since she began taking the last medicine. The intolerance of light had altogether disappeared and the headache returned only at rarer intervals and was always relieved by a dose or two of the medicine. The mental symptoms remained unchanged. I have lately been informed by a relative, however, that since she ceased to be troubled by the pain in the head her general condition has undergone marked improvement—in fact she was "better in every way."

CASE 6.—The patient, aged forty two, was very melancholy, heard voices and saw imaginary figures. She was deaf and her aspect was peculiarly dull and heavy. She complained of a dull pain at the top of the head and sleeplessness. Since November, 1891 when she first came under my notice, she had been under much the same treatment as the preceding patient (Case 5), and with equally unsatisfactory results. In August last I prescribed for her, to begin with, one grain doses of exalgine four times a day, and within a day or two she declared the headache to be much better and sleep less disturbed. She then appeared more cheerful and hopeful, but her hallucinations remained unchanged. In this as in the preceding case, the mental condition improved to some extent coincidently with the relief afforded by the treatment in respect of the painful sensations.

CASE 7.—In this case the patient, aged twenty nine, was in the early stage of general paralysis of the melancholic type. I first saw him in May, 1892. The patient's father stated that his memory had been gradually failing for twelve months past, and that he had recently become quite incapacitated for work. I found him in an emotional state crying or laughing on slight or no provocation, and he had delusions of being "shadowed." The physical symptoms of general paralysis were well marked. He could, however, talk fairly rationally and his principal complaint was of a constant aching, burning and pricking pain at the top of the head. He was put under the usual treatment for three months, during which period he had one congestive attack, and in August, as he still complained bitterly of the pain in the head, I prescribed exalgine in the usual dose of one grain repeated several times daily. When he came again he was much brighter, and he gleefully told me that his headache had disappeared after one or two doses of the new medicine and that he had since been free from it. His father confirmed the statement, adding that he had quite ceased to complain of his head. He has continued the medicine off and on up to the present time and has remained free from the distressing headache, for which he professes himself extremely grateful. His incurable disease is naturally pursuing its course and he is gradually becoming more "lost."

CASE 8.—I first saw this young woman, who was twenty four years of age in January, 1892, she having just been removed from a lunatic asylum by her friends in opposition to the advice of the superintendent. I found her strongly melancholic with a tendency to suicide. She was subject to strong emotional outbreaks. I recommended her immediate reinternment in an asylum, but my advice was not acted on and I lost sight of her until August last when she again presented herself. In addition to her former symptoms she then complained of an "awful pain" in the head, which kept her awake at night. Bromide of potassium in ten grain doses proved useless and at a subsequent interview I added one grain doses of exalgine. Within a day or two the pain had become markedly less and she was again able to enjoy a good night's rest. She has since continued the treatment under exalgine alone and she finds that this controls the headache, though her purely mental symptoms are unimproved.

CASE 9.—This case has been under my care since May, 1892. The patient, who was thirty four years of age, had an accident (a fall on the head) twelve years ago, since which time he had been subject to epileptic attacks, which sometimes occurred as often as six times in a single day. Memory had of late begun to fail. The fits were succeeded by very severe headache across the brows. He was ordered bromide of potassium, which did not in the least affect the frequency of the fits or the headache, though given in large doses for a period of not less than three months. The following are the *verbatim* notes from my case book—"Aug. 15th Has been having four and five fits a day and his headache has been unbearable. For the latter he was ordered two-grain doses of exalgine in infusion of quassia three times a day—Aug. 22nd He has only had one fit since his visit on Aug. 15th, and he says this was the best week he has had for months. The headache is much better and he notices a marked improvement after each dose of the new medicine, which he was ordered to continue.—Aug. 29th Has again only had one fit since last visit, but has been told that the fit was a strong one. Is now quite free from headache and has been enabled to resume his occupation." This patient is still under treatment.

Remarks.—In giving notes of the foregoing cases I do so without attempting any explanation of the physiological action of exalgine. It must, however, be something more

than a mere coincidence that so many cases of violent headache should have promptly yielded to the drug even in small doses such as I gave, and thus, in several instances, after the ordinary remedies had failed to produce any effect. I confess that I at first used the drug in the mental cases without much hope, but rather as a *derrière resort* in cases of early melancholia, associated with headache and insomnia, in which other methods of treatment had proved futile—cases which are but too common in the experience of the alienist physician. I did not, of course, expect to benefit the mental condition by means of exalgine, but in all the cases I succeeded in relieving some of the more distressing symptoms—e.g., headache and insomnia. This remark applies with special emphasis in respect of Case 7, in which no idea of a cure could be entertained, but the patient's remnant of life has certainly been rendered more bearable by the alleviation of the intolerable headache. In Case 9, that of the epileptic man, some possibilities seem to be opened up. That the exalgine practically cured the headache there cannot be the least doubt, but it also appeared to lessen the frequency of the fits. That a *curative* is the opinion of the patient and myself in view of the fact that whilst under observation the number of the fits fell from four or five a day to about one a week. He still goes for days without having a fit, which had never been the case previously. It seems to me, therefore, that exalgine may in common with bromide of potassium and borax, possess the power of staying off the fits (in this patient the bromides had proved utterly useless). I am now making further observations with exalgine in the treatment of epilepsy and propose to give the results of the treatment on some future occasion. In the above cases I have not included several in which, after some improvement, I lost sight of the patient, or others where the patient was not seen again after the first visit, though I have heard indirectly that improvement had taken place, rendering further advice unnecessary. Neither have I included patients who were taking other drugs—mercury or the bromides—in conjunction with exalgine. I have never seen any bad result follow the use of exalgine, but I have never prescribed it in larger doses than two grains every four hours. As a general rule, I have found one-grain doses repeated several times daily to be sufficient for my purpose. Cases 6, 7, 8 and 9 were under my care at a hospital. The remainder occurred in my private practice. A convenient way of prescribing exalgine is to order the dose to be dissolved in ten minims or spirit of chloroform, water or some infusion being added to make up the ounce.

Mecklenburgh square, W.C.

THE CHOLERA EPIDEMIC IN RUSSIA.

By FRANK CLEMOW, M.D. EDIN. &c.

NO III.—IN EUROPEAN RUSSIA.

THE epidemic of 1892 entered European Russia as did many earlier outbreaks, mainly, but not entirely through the mouths of the Volga. A second route followed by the disease may be indicated by a line drawn across the Caucasus from Baku to Poti on Don, thence to the southern governments bordering the Sea of Azov and the Black Sea, and to the south-western group of governments known as the Ukraine.¹ A comparison of the dates upon which the earliest cases of cholera occurred in each of the governments marking these two routes shows very clearly that the epidemic spread with much greater speed by the first route than by the second. The immense river array of the Volga formed a channel along which the infection travelled with almost startling rapidity. The earliest case of cholera in the government (not in the town) of Astrakhan occurred on June 13th.² On the 14th the disease appeared in the government of Saratov on the 23rd in that of Samara, on the 24th in that of Simbirsk, and on the 25th cases of cholera were reported in the government of Kazan. The epidemic had thus travelled in a northerly direction, along the course of the Volga, a distance of 1764 versts (nearly 1200 miles) in the space of twelve days. In what may for brevity be termed the south-western branch of the epidemic, the first town to be affected on the European side of the Caucasian frontier was Rostof-on Don, one of the

chief towns in the territory of the Don Cossacks, and situated, as its name implies, on the River Don. Cholera manifested itself here on June 23rd. In the neighbouring government of Kharkof no case was reported until ten days later (July 8th). On July 12th the infection spread to the adjoining government of Poltava. For a considerable period the epidemic travelled no further in this direction. Not until July 23rd was cholera reported from the government of Ekaterinoslav (situated to the south of Kharkof and Poltava, and to the west of the Don Cossack province). On August 3rd the disease appeared in the Taurida (the government which includes the Crimea), on the 8th in Kherson, on the 16th in Kief, whilst it did not spread to the border governments of Bessarabia and Podolia until the 25th and 30th of August respectively. Whilst the infection was thus travelling comparatively slowly along the shores of the Black Sea, it was also passing from Rostof-on-Don in a northerly direction. On July 2nd, only four days later than the occurrence of the first case of cholera at Rostof, the disease appeared in the town and government of Voronezh. Between Rostof and Voronezh is a distance of 610 versts (about 400 miles). The two towns are connected by a line of railway. They are also connected by the River Don, which drains the whole of the government of Voronezh. The Don is navigable by steamer for half the distance between the towns of Rostof and Voronezh and by smaller craft for the remainder of the distance. Communication by the railway is, of course, much more rapid than by the river, the journey taking exactly twenty-four hours. There is evidence to prove that in this instance the railway was the means of conveying the infection. Cases of cholera occurred at stations on the Rostof-Voronezh Railway on July 1st, and on July 2nd the disease appeared in the town of Voronezh. The rapidity with which cholera spread up the Volga was in marked contrast with the comparative slowness with which it followed the course of the Dnieper, if indeed, that river can be said in any way to have formed a channel by which the infection was carried. The Dnieper is almost unnavigable. The wide estuary below Kherson is too shallow to allow of large vessels entering the river from the sea. To the south of Ekaterinoslav the course of the river is interrupted for a distance of seventy versts by a series of falls varying in height from eight to twelve feet. To the north of this the river is navigable with safety only in the spring, in the summer the many and constantly shifting sandbanks render navigation difficult and at times impossible. The earliest case of cholera in any town on the banks of the Dnieper occurred at Ekaterinoslav on July 28th. The first case in the town of Kief, about 350 versts (240 miles) higher up the river is stated to have been on Aug 16th, in the governments of Tchernigof and Mogilef, through which the Dnieper flows the disease appeared on Sept 5th and Aug 30th respectively, whilst in Smolensk, the government in which the river takes its rise, no case of cholera was reported before Sept. 26th.

It will be well to briefly recapitulate these facts. Along the channel of the Volga, upon whose waters almost the whole of the traffic of Central and Eastern Russia is carried during the summer the cholera infection travelled a distance of nearly 1200 miles in twelve days. On the Dnieper on the other hand, a river which is in no sense a great channel of communication, an interval of nineteen days elapsed between the dates of the appearance of cholera in two towns only 240 miles apart, whilst the long period of sixty days separated the dates of invasion by the disease of Ekaterinoslav and Smolensk, distant (by the river) about 600 miles the one from the other. Having traced the epidemic along the Volga as far as Kazan, it will be convenient to continue a brief itinerary of its course beyond that ancient capital of the Tartars. A few versts to the south of Kazan the Volga is joined by the immense stream of the Kama, which drains the three large governments of Viatka, Perm and Ufa. From Viatka the first case of cholera was reported on June 27th from Perm on July 6th and from Ufa on July 18th. From Kazan the main channel of the Volga may be traced to its source through the following governments in the order named: Nijni Novgorod, where the earliest case of cholera occurred on July 7th, Kostroma, first affected on July 18th, Yaroslavl, first affected on July 21st and finally Tver, where the disease appeared on Aug 5th. It is scarcely necessary to repeat here in detail the dates upon which the first cases of

¹ The district known as the Ukraine comprises the six governments of Viatka, Podolia, Kiev, Tchernigof, Poltava and Kharkof.
² As in the previous articles every date mentioned is according to the Old Style.

³ The town of Voronezh lies on a river of the same name at no great distance from the junction of this river with the Don.

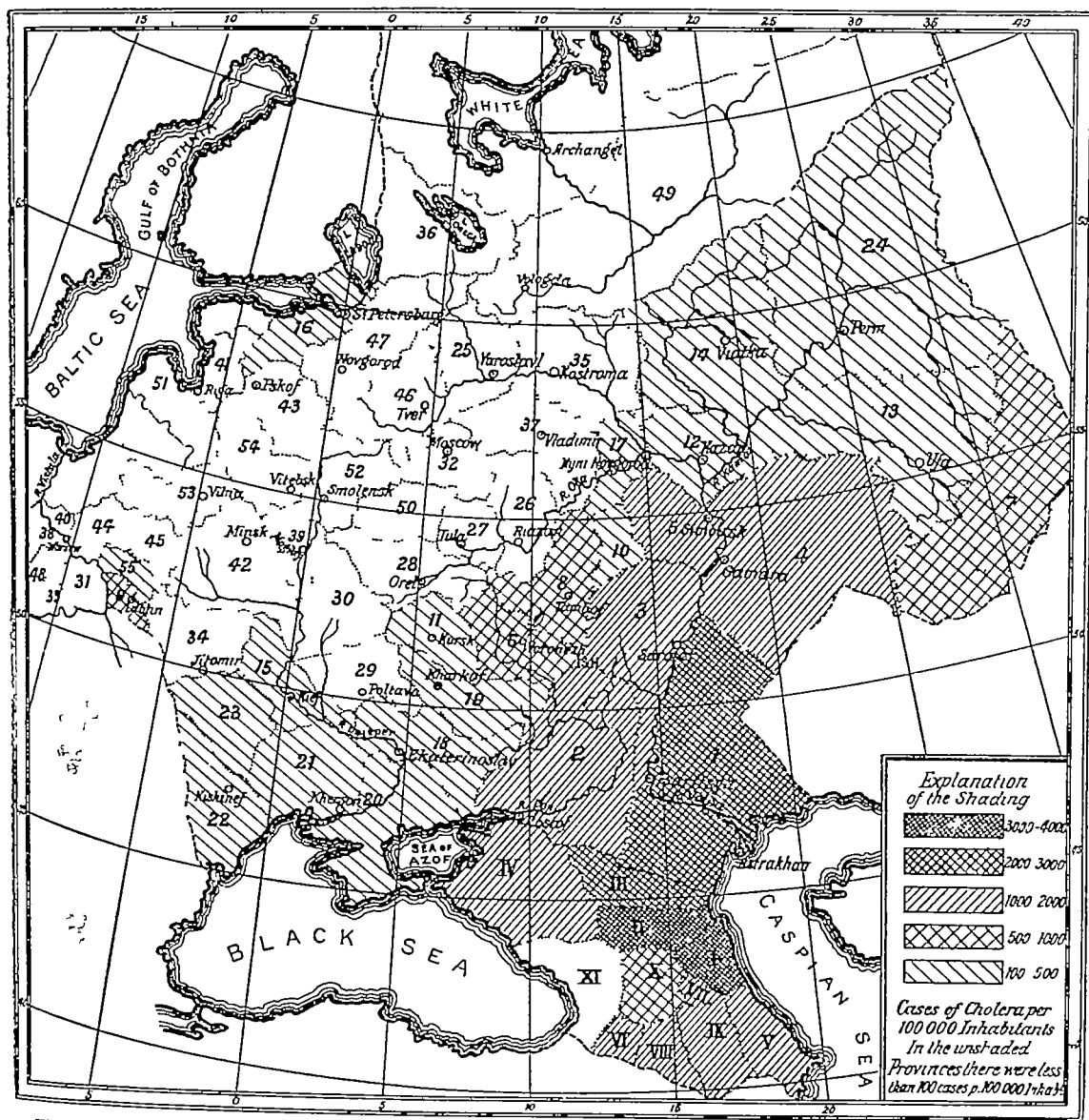
TABLE OF THE CHOLERA EPIDEMIC IN THE RUSSIAN EMPIRE TO DEC. 1ST, 1892 (OLD STYLE)

No. in Map	Name of Government or Province	Cases.	Deaths	Per 100 000 Inhabitants (in round figures)		Percentage of deaths to cases	Date of occurrence of first case of cholera.
				Cases	Deaths		
1	Astrakhan*	21,080	10,080	2,404	1,247	—	June 18th
2	Don Cossacks*	87,680	18,295	1,812	880	48.5	June 28th
3	Saratof †	41,887	21,601	1,721	866	50.8	June 14th
4	Samara †	41,368	18,115	1,550	682	43.8	June 23rd
5	Simbirsk †	17,148	7,847	1,028	440	42.8	June 21st
6	Voronezh †	24,040	12,082	894	440	50.2	July 2nd
7	Orenburg †	10,304	5,339	746	387	51.8	July 8th
8	Jambou †	21,284	9,073	733	313	42.7	July 10th
9	Lublin	5,683	2,275	630	214	40	August 1st
10	Penza †	7,727	3,514	483	219	45.5	July 8th
11	Kursk †	10,164	4,247	397	166	41.8	July 14th
12	Kazan †	8,337	3,703	880	109	44.4	June 5th
13	Ufa †	7,350	3,511	353	163	47.7	July 18th
14	Viatka*	10,307	4,681	343	166	45.3	June 27th
15	Kief	10,562	3,720	325	118	35.2	August 16th
16	St. Petersburg †	5,423	1,092	290	86	29.5	July 25th
17	Nijni Novgorod †	4,347	1,017	280	124	44	July 7th
18	Ekaterrinoslav †	4,281	1,896	253	114	44.3	July 23rd
19	Kharkoff	6,280	2,509	255	104	41	July 8th
20	Taurida †	2,454	1,365	215	120	55.0	August 3rd
21	Kherson	4,892	2,224	219	101	46.3	August 8th
22	Bessarabia	3,070	1,285	194	81	41.8	August 24th
23	Podolia	3,884	1,433	148	54	30.8	August 30th
24	Perm †	4,205	2,052	160	78	43.7	July 6th
25	Yaroslavl*	1,241	548	104	46	44.1	July 21st
26	Riazan †	1,752	803	90	46	51	July 10th
27	Tula †	1,270	308	84	24	29	July 26th
28	Orel †	1,514	630	71	30	41.6	July 17th
29	Poltava	1,992	863	70	30	43.2	July 8th
30	Tchernigof	1,562	434	70	22	31	September 5th
31	Radom	759	331	90	43	43.6	September 19th
32	Moscow †	1,515	733	63	35	51.7	July 20th
33	Kielce*	864	191	52	27	52.5	September 13th
34	Volhynia	1,162	453	49	18	39	September 3rd
35	Kostroma*	428	212	31	15	49.5	July 18th
36	Olonetz*	107	52	27	13	48.6	August 21st
37	Vladimir*	231	100	19	11	57	July 19th
38	Vareaw*	170	71	17	7	41.3	September 11th
39	Mogileff	221	99	16	7	44.8	August 30th
40	Plock	78	52	12	7	68.6	October 14th
41	Livonia*	93	43	8	4	51.6	September 5th
42	Minsk	150	70	8	4	46.6	September 19th
43	Pskof	62	31	6	3	50	September 23rd
44	Lomza	51	24	8	4	47	October 22nd
45	Grodno	69	37	5	3	53.6	September 12th
46	Tver*	46	15	3	1	33	August 5th
47	Novgorod*	17	12	2	1.4	70	August 15th
48	Piotrkow*	10	2	1	0.2	—	September 20th
49	Vologda*	10	4	1	0.4	—	August 20th
50	Kaluga*	7	7	0.6	0.6	—	October 17th
51	Courland*	7	3	1	0.4	—	October 10th
52	Smolensk*	4	4	0.3	0.3	—	September 20th
53	Vilna*	7	4	0.5	0.3	—	November
54	Vitebsk*	2	2	0.1	0.1	—	November
55	Siedlec	1,683	582	211	114	54	September
Total for European Russia (excluding Finland)		331,077	151,026	331	152	45.8	—
I	Daghestan*	23,471	10,457	3,912	1,744	44.5	June 18th
II	Terek †	27,071	13,114	3,884	1,639	48.5	June 18th
III	Stavropol †	14,802	7,280	2,115	1,040	40.2	July 20th
IV	Kubani †	28,750	15,100	1,944	1,020	42.5	June 18th
V	Bakut †	11,251	6,876	1,607	982	61.1	June 6th
VI	Kars †	2,037	1,378	1,403	680	46.9	July 20th
VII	Zakataly †	691	593	1,309	793	60.3	June 21st
VIII	Yervant †	9,153	5,504	1,303	786	60.1	July 7th
IX	Elizavetpolt †	9,715	5,000	1,079	632	58.5	July 18th
X	Tiflis †	5,095	3,118	740	390	52.0	June 18th
XI	Kutaisi †	613	308	6	3	50.2	July 22nd
Total for the Caucasus		134,758	60,423	2,105	1,084	51.5	—
Central Asia and Siberia		89,175	40,831	—	—	52.5	—
Total for the Russian Empire		555,010	267,880	—	—	48.2	—

* The epidemic was at an end by Dec. 1st.

† The epidemic was almost but not quite extinct by Dec. 1st. In the remaining governments the epidemic was still active in December.

MAP OF RUSSIA, TO ILLUSTRATE THE INTENSITY OF THE EPIDEMIC OF CHOLERA



The shading represents a varying ratio of cases of cholera per 100 000 of population. The figures apply to names of provinces referred to in the Table on the preceding page.

cholera occurred in each of the remaining governments. They will be found stated, with as near an approach to accuracy as possible, in the last column of the table accompanying this article. The further course of the epidemic may be briefly summarised as follows. Before the month of July was over, nearly all the central governments had been overrun by the disease, which had also appeared in St. Petersburg. On Aug 1st cases occurred in Lublin, one of the ten Polish governments. During August cholera invaded most of the southern and south western governments, and in the north those of Tver, Novgorod, Vologda and Olonetz. During September, October and November all the remaining governments of European Russia were returned as affected by the disease, with the following exceptions: the governments of Archangel, Esthonia (including the important port of Reval) and Kovno; the two Polish governments of Suwalki and Kalisz; and the Principality of Finland. These governments have remained free from cholera throughout the epidemic.

Before leaving this branch of the subject it will be of

interest to compare the speed with which the cholera epidemic of last year travelled with that attained by earlier epidemics. In the first article of this series it was stated that the recent outbreak had spread through Russia with unprecedented rapidity. Unfortunately the records of past epidemics in the regions then under notice—that is to say in Central Asia and Siberia—were not available for the purpose of comparison. But the case is different in European Russia. Thanks to the labours of Dr Archangel'ski, we possess in his invaluable work on "Cholera Epidemics in European Russia during the Fifty Years 1823-72" an exhaustive account of all the previous outbreaks of the disease so far as concerns their course on this side of the Caspian Sea and the Ural Mountains. By the aid of these records it is possible to substantiate the statement just made as to the relative speed of the epidemic of 1892. In 1830 and 1847 years in which cholera followed the same route as it did last

year, the first case recorded in Astrakhan was, by a curious coincidence, on the same date, July 4th, in each year

Table showing the Number of Days which elapsed between the occurrence of the First Case of Cholera in Astrakhan and that of the First Case in each of the Towns named under the Three Years 1830 1847 and 1892

Name of town	1830	1847	1892.
Astrakhan	July 4th	July 4th	June 7th
Tsaritzyn	12 days later	12 days later	5 days later
Saratof	18 "	38 "	1 "
Samara	30 "	66 "	0 "
Simbirsk	43 "	70 "	7 "
Kazan	51 "	63 "	8 "
Nijni Novgorod	88 "	67 "	20 "
Moscow	67 "	76 "	33 "

Table showing the Rapidity with which the Cholera spread from Rostof on Don to the South and West in each of the Three Epidemics. The dates, as before, are those of the first cases in each place

Name of town or government.	1830	1847	1892.
Rostof-on Don	Aug 6th.	July 12th.	June 18th.
Kief	62 days later	73 days later	49 days later
Podolia	88 "	81 "	63 "
Volhynia	123 "	131 "	67 "

These figures prove conclusively that the latest epidemic of cholera has overspread European Russia in a considerably shorter period than did either of the earlier outbreaks. They further show that this increased rapidity in the spread of the disease was not confined to its course along the Volga, but was manifested, though to a less striking degree, in its march westward to the Ukraine. In 1830 there were no railways in Russia, in 1847 there were 343 versts of rail way lines, insufficient to affect in any way the spread of an epidemic, in 1892 there were 30,366 versts of line in the Empire, and of these 28,191 were in European Russia. Facility and speed of communication by water have advanced in like proportion. The conclusion appears inevitable that herein is to be found partly, if not wholly, the explanation of the more rapid course of last year's epidemic as compared with that of former years. One feature of the epidemic must not be passed over. In some instances the disease appeared to be carried from one government to another at a considerable distance, and even to obtain no small hold there, before the intervening governments were attacked. Thus, in the Polish government of Lublin a case of cholera occurred on Aug 1st, and during the month of August there were reported from that government 1125 cases and 337 deaths. On Aug 1st the epidemic had travelled in the direction of Lublin only as far as the governments of Ekaterinoslav, Kharkof and Poltava. Between these governments and that of Lublin lie the governments of Kief and Volhynia, which remained free from the disease until Aug 16th and Sept. 3rd respectively, or fifteen and thirty three days later than the date of the first case in Lublin. In like manner cholera appeared at Moscow and St Petersburg on the same date (July 20th), whilst the intermediate governments of Tver and Novgorod were not affected until sixteen and twenty six days later respectively.

Up to the present only the direction followed by the cholera epidemic and the rapidity with which it overspread the country have been considered, without reference to the amount of sickness and death caused by it in the various governments named. In the table on p. 788 will be found the full statistics of the epidemic from its commencement to December 1st (Old Style). The numbers of cases and deaths and the ratio which these bore to the population in every government affected by the disease in European Russia and the Caucasus are there stated. The number of cases recorded per 100,000 inhabitants has been taken as the standard of intensity of the epidemic, and the governments have been arranged and numbered in descending order of the intensity with which they were affected. In order to present more clearly the distribution of the epidemic I have prepared a map of the

country, and have endeavoured to show by a scheme of shading the relative hold obtained by cholera in each of the governments in which there were more than 100 cases per 100,000 inhabitants. It is important to note that, whilst the epidemic was at an end, or practically at an end, in a large majority of the governments of European Russia and in all those of the Caucasus before Dec. 1st there were sixteen governments from which a considerable number of cases and deaths was reported after that date. The most important of these were the governments of Podolia, Bessarabia and Kief, from each of which large figures were returned during December. Notwithstanding the occurrence of a winter of almost unprecedented severity the cholera infection lingered in some few governments throughout December and January, and even into February. According to the latest returns received by the Medical Department (before February 18th) the disease was still present in ten governments, and it may be of interest to quote their names and the figures of the last report. In five of the governments I am able to add the temperatures (average and minimum) of the chief or "government" town during the period covered by the report. For facilities in enabling me to obtain these temperatures my thanks are due to the Secretary of the Meteorological Office.

Name of Government.	Period	Cases	Deaths	Temperature (Celsius) of 'Government' town during period	
				Average (at 7 A.M.)	Minimum (at 7 A.M.)
Bessarabia.	From Jan. 19 to Feb. 4	4	2	-5.5	-20.2
Voronezh	" 8 " " 8	42	18	—	—
Viatska	" 13 " " 2	1	—	-21.8	-35.8
Kief	" 24 " " 7	2	—	-7.4	-25.9
Kursk	" 1 " Jan 31	2	2	—	—
Penza	" 25 " Feb 8	2	1	-12.7	-34.4
Podolia	" 16 " " 1	150	52	—	—
Samara	" 11 " " 3	3	1	—	—
Tambof	" 22 " " 7	15	9	—	—
Ufa	" 20 " " 3	21	9	-7	-10.7

OBSERVATIONS ON THE PREVALENCE OF TYPHOID FEVER IN THE GARRISONS OF LOWER EGYPT

By SURGEON COLONEL ALBERT A. GORE

WITH reference to the recent interesting contributions on this subject in THE LANCET, conditions of soil have undoubtedly much to do with the prevalence of typhoid fever. At a lecture given in the Sanitary Institute, Dublin, on March 18th, by Sir Charles Cameron, he gave it as his opinion that the distribution of typhoid fever there depended altogether on conditions of soil saturated with matters of a most objectionable character. It is well known that regiments newly arrived in that garrison have suffered from time to time a good deal from enteric fever. In thirteen years, 1872-84, the French army was composed of a total effective of 3,375,409 men, yielding 151,319 cases of typhoid fever and losing from that disease 17,642 men, or 14.76 per cent of the cases treated—a third of the total mortality of the army. With regard to sanitation M. Brouardel writes "The number of soldiers attacked by typhoid fever is always relatively more high than that of the inhabitants of the towns which they are sent to garrison. The young men taken for military service are about the same age as those who are most often attacked with typhoid fever. They are in the same condition of non-acclimatisation in their new domiciles, they are equally sensible of typhoid fever, and we can consider them as the precise test of the salubrity of the towns. In a town where typhoid fever is endemic, when acclimatised to the plague, it acts by degrees on the greater number of the inhabitants, but import all of a sudden a group of young men not having been under the same influences, and we cause in them a veritable epidemic. The aptitude for contracting the disease is five or six times greater among the military on account

of age and the non acclimatisation indicated before. The most absolute law is that the mortality in the army by typhoid fever permits one to judge of the salubrity of a town.¹ To the fouling of the subsoil in India is attributed much of the typhoid fever which prevails, which insanitary condition of soil infects the air and water. When this condition in Europe has had such a powerful influence on the French Army, it is not to be surprised at that in such towns as Cairo and Alexandria (where to the local insanitary conditions the debilitating influence of heat on the nervous system is super-added) young and unacclimatised soldiers should suffer in a greater degree than the inhabitants. Sir James Hanbury, after the campaign of 1832, when out of an average strength of 13,465 (July 17th to Dec. 31st), the disease caused 575 admissions and 223 deaths, very aptly summed up the situation in the following words—"To describe its genesis to any one specific cause would not, I think, in this case be justified by reason or experience. The causes were multiple, but one of the most potent, in my opinion, was the exposure under canvas on ground in the neighbourhood of a large city whose conservancy arrangements were on the most primitive system, and the filthy habits of the lower classes acting on a body of men lowered by the privations hard work and exposure in a campaign during the hottest and most unhealthy season." This large body of men, it will be recalled, was of the most hable age, and undergoing that constitutional change commonly called acclimatisation. During 1833-84 and 1835 several regiments suffered severely from enteric fever in Ramleh Barracks which, when taken over on being evacuated by Arabi's troops in 1882, were in a very filthy condition, as was the vicinity. They were built on rubbish, into which the leakage from drains and cesspits as also from the stables had soaked, rendering apparently the site inherently unhealthy by contamination of the sub-soil. Referring to them in 1884 Brigade-Surgeon Ramsbottom writes "This localisation seems to indicate that it is not to the water supply of the town that we must look for the causation of the disease, but other causes, and the conclusion arrived at is that the chief cause to be assigned for the prevalence of fever in these barracks must be looked for in the saturation of almost the whole of the soil underneath them by sewage matter in past years, caused by cesspits and drains being built without inverts the bottoms being thus left open and allowing the sewage to percolate the soil." With regard to contamination of the air the following note appeared in the *Egyptian Gazette* of May 20th, 1889 the very month when fever was beginning to show itself. "The attention of the sanitary authorities is directed to the pestilential exhalations emanating from the sewers in the Ramleh Boulevard, Alexandria, and its neighbourhood. Too much vigilance cannot be exercised at this season of the year in all matters affecting the public health."

The question of water supply and its influence depends upon whether it is filtered or unfiltered apparently. When enteric fever first appeared among the troops at Ramleh in 1832 it was attributed in the first instance to the use of well water fouled by adjacent compounds in each of which was a cess-pit without invert, made of loose rubble, seldom emptied and so allowing the sub-soil to be thoroughly saturated with liquid sewage, which of course percolated into the wells. A contributor to one of the medical journals at this time wrote "The fresh water canal close by was polluted with filth as if by design." Later on it was recommended by the Principal Medical Officer of Alexandria (Deputy Surgeon General Fox) that the water should be boiled before being filtered, and for this purpose appliances and an allowance of fuel were granted by the military authorities. The Mahmoodeveh, or sweet-water canal, taps the Rosetta branch of the Nile at Atfeh, fifty miles from Alexandria. It receives many impurities. During 1833 no less than 472 human corpses were found in the Nile from which it springs and on Feb. 1st, 1839 appeared the following paragraph in the *Egyptian Gazette* with reference to the canal. In consequence of the many complaints received from the inhabitants of Alexandria and from Mr. Cornish, the manager of the Alexandria water company as to the bad quality of the water now obtainable from the Mahmoodeveh canal for consumption in town, his Excellency Riaz Pasha has requested the Minister of Public Works and the Director General of the Board of Health to appoint a Commission entrusted with the immediate examination of the question and with powers to report as to the measures that should be taken to improve the Alexandria water supply.

This Commission recommended 'that all drains running into the canal from the villages along its banks should be closed, and that fresh outlets for the drains should be made to discharge on the canal side, that strict orders should be given to the inhabitants along the banks to cease making the canal the receptacle for every description of filth and rubbish, and that these orders should be enforced by severe punishment in case of their being disregarded, that carcases of animals should be promptly removed when seen in the canal, that the canal should be systematically patrolled under the direction of the Irrigation Department who on their part would open the lock at Kafr Dawar once every ten days in order to allow a good flash of fresh water to come in from the Katetbeh canal.' That unfiltered water of this description, or water obtained from wells in the lower quarters of Alexandria, is made into "ginger pop" and other drinks and purchased by soldiers, is very probable. But with regard to the filtered water a medical officer was sent from Cairo to make an analysis of this when enteric fever was very prevalent in Ramleh Barracks. He reported "that it contained a small amount of chlorides, a low percentage of fixed and volatile solid and freedom from hardness—characters, on the whole of a pure and wholesome water with no signs of sewage contamination." That the germs of enteric fever may be carried from one station to another is proved by the fact that the troops which went from Ramleh to Cairo for the review carried them with them and for three months after leaving Egypt cases continued to occur in regiments which left the command. At intervals cases were admitted from H.M. ships in harbour the crews being healed by drinking condensed water on board. These have been very few and were probably contracted on shore when the men were on leave.

Temperature has a considerable influence as a rule. The mean air temperature is at its minimum in January and rises gradually during February, March, April and May, but much more quickly in June and July when at Cairo it reaches its maximum. The Nile rises rapidly in August and reaches its maximum in September falls somewhat in October and then more quickly subsides. With its rise the mean air temperature commences to fall. In the years 1833-69 inclusive, the ratio per 1000 of admissions for enteric fever in the Egyptian command increased with the temperature, was highest in May and June and lowest in December. At Alexandria it is most prevalent in the autumnal and damper months of August, September, October and November. Milk in Egypt is systematically adulterated with water and much of it is obtained from the buffalo a filthy feeder. As long as the nomenclature of diseases is worded as at present many cases of enteric fever will be included amongst the recorded under the heading 'Simple Continued Fever' defined as a simple fever with no distinguishing characteristics. Many of the cases are of twenty-one days duration or longer with a curve of temperature very similar to that of typhoid fever but with no diarrhoea, rose spots or enlargement of the spleen. It cannot be forgotten that with reference to these Liebermeister has written "The diseases produced by the specific poison of typhoid fever differ a good deal among themselves. Some are so serious that life is almost inevitably destroyed, others so trifling that patient and physician are left in doubt whether there was disease at all. Between the two extremes at every gradation the lighter cases are often called a febrile or febrile abdominal catarrh, gastric fever &c. a custom practically not unjustifiable, and in numerous epidemics the imperfect cases are more common than the perfect ones." The well known rule that the greatest predisposition is between the ages of fifteen and thirty years has been amply verified by the medical statistics of the army in Egypt. Of 119 fatal cases recorded at Alexandria from 1833 to 1839 inclusive, only 2 were over thirty years of age, and of the whole only 16 exceeded twenty-five years. Many cases were imported by regiments from "up Nile" and Saakin, and did not originate at Alexandria, and during this period the more acclimatised regiments and smaller units in the garrison suffered least. There were several admissions for ague, the greater number imported but several of these originated in the muckety camp at Melk until removed from the site overlooking the marshy banks of Lake Mariout. Nearly all the cases of remittent fever were from Cyprus or other Mediterranean stations. Of late years since the water of the canal has filtrated into the sub-soil at Suez and Ismailia, intermittent fever has been more common at those stations.

The shore about Alexandria is fouled by filth of all kinds and many drains open on to it. During the high winds of winter seaweed is thrown up and with the summer heat

¹ La Semaine Médicale Dec. 12th, 1833.

decays and gives rise to very unpleasant odours. Owing to some pandemic cause or seasonal influence some years are more unhealthy than others, and some summers are cooler, and there are differences in the internal economy of regiments which influence their respective health rates.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL AND THERAPEUTICAL

AN ILLUSTRATION OF THE ADVANTAGES OF THE CRÉDÉ METHOD IN THE PREVENTION OF OPHTHALMIA NEONATORUM

By WALTER W. HEBLAS, M.R.C.S., L.R.C.P. LOND.,
HOUSE PHYSICIAN, GENERAL LYING IN HOSPITAL, LAMBETH

I AM indebted to Dr. Herman and Dr. Cullingworth, under whose care the patients were, for permission to publish the following notes.

The excellent results to be obtained from the Crêdé method for the prevention of ophthalmia in new born infants are exemplified in the following brief notes of an outbreak so out short in the wards of the General Lying in Hospital. The method consists in dropping a two per cent solution of nitrate of silver into the eyes immediately the head is born. Up to the time of the outbreak the usual method of treating the eyes in this hospital had consisted in wiping them with clean cotton wool as soon as the head was born (the wool being immediately afterwards burnt). A few drops of perchloride of mercury solution (1 in 2000) were dropped in each eye after birth, and this was repeated twice a day during the fourteen days the infant remained in the hospital, and every mother had a vaginal douche of Condy's Fluid (half an ounce to the pint of water) previously to delivery. At the end of last and at the commencement of this year numerous cases of ophthalmia occurred in the hospital for which no cause could be found. From Jan. 1st to 22nd out of seventeen children born alive seven were so affected, this being more than 42 per cent. On the latter date the Crêdé method was put in force. Not one single case occurred afterwards. The treatment gives rise to inflammation of the conjunctiva with an abundant thin muco purulent discharge, commencing a few hours after the application, in nearly every case, however, this completely subsides in from four to five days, when the eyes regain their normal appearance.

EPIDEMIC INFLUENZA AND DRAINS

By AUGUSTUS H. BAMPTON, M.D. RUI

THERE is considerable evidence accumulating of a nature to force one to the unpleasant conclusion that influenza has become endemic amongst us, and the assurance of epidemiological prophets that, as in former times, the epidemic would be only of three years' duration has been weighed in the balance of experience and been found wanting. To me it has always been a belief that influenza is as likely to be always with us as any other of the zymotic diseases. The problem I offer for solution to my professional confrères is, Where is now the lurking place of the germs of this disease? I venture to suggest that the most probable habitat and favourable environment would be the drains. And my reasons for thinking so are based upon the facts that in badly drained houses I have noticed that first one member of a household and then another member are continually down with the complaint, and this in spite of isolation and disinfection, that where the drains have been made air tight the attacks cease, also in well drained houses influenza is absent. It may be urged that sewer air only renders the individual exposed to its baneful influence more susceptible to attack by lowering the general health. That may be true in part, but it does not explain away the influenza germ, nor does it help in the solution of the problem. In conclusion, where influenza never seems to be out of the house I say, "Look to the drains."

Riley

A Mirror

OF

HOSPITAL PRACTICE, BRITISH AND FOREIGN

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

UNIVERSITY COLLEGE HOSPITAL

A CASE OF TORSION OF THE SPERMATIC CORD, WITH STRANGULATION OF THE TESTICLE

(Under the care of Mr. A. E. BARKER.)

WE publish below the notes of another of the rare and interesting examples of strangulation of the testis due to twisting of the epididymis in which the symptoms were those of strangulated hernia. We have previously presented our readers with reports of similar cases under the care of Mr. Whipple, Mr. Bryant and Mr. Page, and have referred to others. A boy aged sixteen, under the care of Mr. Whipple¹ in the Plymouth Hospital, had sprained himself the day before admission, when a swelling in the left groin was present, and he gave a history of vomiting. The swelling was hour glass shaped. "The lower half of this was the left testicle lying in the upper part of the scrotum, the upper, lying over the external abdominal ring, about the size of a hen's egg, was very tense, dull on percussion, and gave no impulse on coughing." In this case the epididymis appeared to be twisted twice on its own axis, and there was an ommental hernia, the piece of omentum being attached to the testis. The testis was removed. Mr. Page's² case was that of a lad aged seventeen, admitted for urgent symptoms presumably in connexion with a right congenital inguinal hernia for which a truss had been worn. The symptoms commenced three days before admission, with severe local pain, tenderness and swelling. He vomited once and had constipation. The temperature was normal. Operation proved the symptoms to be due to gangrene of testis after twisting of the cord, two turns to the right, at the external ring. The open funicular portion of the peritoneum was closed by ligature and the boy made a rapid recovery. Mr. Bryant's case was that of a boy aged fifteen, who had been suffering from symptoms supposed to be due to strangulated hernia. Three half twists made inwards completely untwisted the cord. The testis was not removed but afterwards wasted. Mr. Barker also reminds us of two others, one under the care of Dr. Keen (referred to by Mr. Bryant), that of a man aged twenty three, the subject of an undescended testicle and reducible inguinal hernia on the same side. The cord had made three half turns, the testis was removed. The other, under the care of Mr. Davies Colley, was that of a boy aged fourteen, with undescended testicle, but no hernia, in which the cord was twisted outwards three turns. The testicle was not removed, but the cord was untwisted. This testicle sloughed. We have purposely limited our references to cases in which the retained testis had become inflamed in consequence of a twist in the cord, and excluded those cases, much more common, in which an injury has produced the symptoms and in which no such twisting of the cord has been met with, although the symptoms produced were similar.

A healthy lad aged fifteen stated that the right testicle had been always small and had never fully descended into the scrotum, and that he had had a rupture on the same side since he was seven years old. This rupture disappeared until about one year ago and since then had usually been down to the top of the scrotum when he was in the erect position. He had never worn a truss. On March 2nd, 1893, the bowels were moved and soon afterwards the "rupture" came down as usual, but could not be reduced. He was at work throughout the nights of the 2nd and 3rd. On the latter day he was sick twice, but was at work again at night, although the swelling was increasing in size and becoming painful, he was sick twice again on the 4th. On the 5th³ he took to his bed and remained there until admission into hospital on

¹ Reported by Mr. Nash. THE LANCET May 16th 1891

² THE LANCET, July 30th 1892.

³ Under the advice of his medical attendant Mr. Hereward Wake

the 9th, the lump becoming more and more swollen and tender. On admission on the 9th he looked well, the tongue was dry along the dorsum and furred, the pulse was 96, temperature, 102.2°. The right testicle could be felt about two inches below the external abdominal ring, swollen many times beyond its usual size, which the patient described as about that of the last joint of the little finger. Above this there was a large oval swelling occupying the position of the inguinal canal and reaching nearly to the testicle. This swelling was hard and tender, and the skin over it was dark and oedematous. There was no abdominal tenderness. He had passed flatus every day since the onset but the bowels had not been moved since the 2nd. Regarding the case as one of strangulated omental hernia, Mr Barker operated at once in the usual way. On opening what appeared to be the sac of a hernia, just external to the ring a quantity of bloody serum with some clots escaped, and a dark livid mass was exposed, smooth on the surface and very tense. At first this was regarded as a knuckle of strangulated intestine, but a few moments later it was recognised as the testicle twisted on the cord outwards three half turns and consequently strangulated. There was no hernia down at the time. A twist of three half turns inwards undid the strangulation but as the organ was much damaged the cord was divided and the organ was removed. The canal was then stitched up and the wound was closed without drainage. The patient made an excellent recovery. The wound was left untouched until the ninth day, when union by first intention had taken place. Around two or three of the stitches the skin had slightly inflamed owing to the oedematous condition of the tissue at the time of operation. The temperature fell to normal after the latter.

Remarks by Mr BARKER.—These cases are probably not quite so uncommon as the literature of affections of the testicle would lead one to infer, but have possibly been overlooked and treated as inflamed incarcerated herniæ in the past. I can find only four similar cases recorded, but have heard of others. Of the four appended almost all showed the same features. They all occurred in young individuals who had imperfectly descended testicles on one side. The symptoms closely resembled those of strangulated hernia—i.e. sudden onset pain, vomiting, constipation and increasing swelling. Some were actually associated with hernia. The cause in more than one appeared to be an attempt to reduce the hernia causing torsion of the testis or the cord. In all an operation was performed with recovery. In two the testicle was not removed, and in one of these it subsequently sloughed away, in the other, though the wound remained healed, the organ underwent complete atrophy. In Dr Keen's case organisms were cultivated from a hematoma found round the epididymis. The proper treatment appears to be removal of the testicle in all cases and suture of the inguinal canal so as to radically cure the hernia. To leave the testicle in the scrotum after untwisting the pedicle would probably result in most cases, as in two recorded either in atrophy of the organ or in its subsequent sloughing away.

YORK COUNTY HOSPITAL

AMPUTATION AT THE HIP JOINT FOR SARCOMA OF THE FEMUR—STRANGULATED HERNIA WITH UNUSUAL SYMPTOMS.

(Under the care of Mr JALLAND.)

THE case of hernia presents unusual characters, the symptoms being irregular and not unlike those met with in partial enterocoele. The exact nature of the hernia is not quite clear, but from the description we incline to the opinion that it was a congenital one with a small opening, for intestine was felt and displaced from the neck of the hydrocele sac. The intestine was also slightly adherent, but how long it had been so it is not possible to say. How much disturbance may have been due to the escape of inflammatory fluid from the acute hydrocele into the peritoneum through the small opening which was apparently blocked at the time of operation, is a matter of conjecture. There can have been no severity of strangulation, such as would have resulted in ulceration or sloughing of bowel, for the after treatment of the case was unmarked by complication.

The case of periosteal sarcoma of the femur illustrates the exceeding malignancy of these growths and the unsatis-

factory result of the severe measure of treatment which at the present day is apparently the best at our disposal. It is not always easy to determine the nature of the disease from which the patient is suffering when complaint is made of the knee, especially if the disease commenced close to or has invaded the interior of the joint, and should the surgeon have come to a diagnosis as to the probable nature of the case and recommend exploration, to be followed by operation, it is difficult to make the friends understand that there is any urgency in the case, and that operation must not be delayed if even a moderate success is to be obtained. Continued experience only confirms the statement of Mr Butlin, that amputations performed for this disease are very dangerous to life, rarely affording a permanent cure or giving long relief. Of thirty six cases collected by him, in six the disease recurred in the stump, seven died of secondary disease, nine died from operation, ten were lost sight of, two died from unknown causes and the remainder were alive and well more than twelve months afterward. Berck¹ collected 118 cases, recorded in the literature of disarticulation of the hip-joint for malignant disease of the thigh. Of these, 36 had been fully recorded and 27 died of secondary growth within from four weeks to four and a half years. He found no case of lasting cure. Mr Rose has recorded a case in which after amputation at the hip there was no recurrence for five years. For the notes of these cases we are indebted to Mr J B Lendrum, M B, house surgeon.

CASE 1. Sarcoma of the lower end of the femur, amputation at the hip joint, recovery, subsequent death from secondary growth in the lungs.—A girl aged sixteen was admitted into the York County Hospital on Oct. 6th, 1892, for what was supposed to be a white swelling of the right knee joint. The history was as follows. The patient had been a stout, healthy girl of about eight stones in weight and had never suffered from any serious illness. In March last she began to feel an aching pain in the right knee. This pain went on for three months without any visible alteration in the joint, but then the knee began to enlarge and the pain to increase, being specially bad at night. Three weeks after the enlargement set in the patient fell on the knee. She was under treatment for tumor albus and in the latter end of August a Thomas's splint was applied and she took to her bed.

On admission the patient was a thin, cachectic looking girl, very anæmic. On the right lower extremity was a Thomas's splint the hip ring of which had to be filed through and bent to allow of its being taken off the limb. There was a large boggy swelling in the region of the right knee-joint, commencing gradually five inches above the centre of the patella and ending suddenly at the level of the tubercle of the tibia. This tumour was apparently arising from the lower third of the femur. The condylar portion of the femur was enlarged in all directions and the skin over the tumour was very discoloured—i.e., red purple in patches over the outer posterior and inner surface of the joint. There was a slight softening on the inner side of the knee. Below the level of the tubercle there was great swelling and oedema of the leg and foot. The glands of the groin were slightly enlarged. The following were the measurements—

	Right.	Left.	Difference
From the anterior superior spine to the external malleolus tip	31½ in.	33 in.	1½ in.
Circumference 4 in. above the centre of the patella	18½ in.	11½ in.	7½ in.
Circumference at the level of the condyles	19½ in.	11½ in.	8 in.
Circumference at the tubercle of tibia	14½ in.	10½ in.	4½ in.
Circumference just above the ankle	10½ in.	8 in.	2½ in.

In five days after admission the circumference round the right knee increased ½ in., in seven days 1½ in. and in twelve days 2½ in. An exploratory aspiration was made but only blood and some large round cells containing several nuclei were seen under the microscope. The patient's average temperature till operation was 99.6 F and pulse 120. On Oct. 18th under ether, disarticulation of the right hip was performed by the Furneaux-Jordan method. The temperature rose in eight hours after the operation to 102, but in twelve hours it became normal and remained so. The first dressing was done four days after the operation, and then every five or six days for some time, when the wound had healed by first intention, excepting at the upper part of the perpendicular

incision, where some serum from the joint continued oozing out, this eventually completely healed. The patient was quite well and able to leave the hospital by the middle of December, but stayed for Christmas to be present at the Christmas tree entertainment.

Towards the end of December she had symptoms of pleurisy on the right side. The chest was tapped with a fine aspirator, but only a small quantity of blood stained fluid was drawn off. From this time the girl began to fail, losing flesh, and the chest trouble was evidently spreading, the left side becoming affected, until she died on Jan 24th, 1893.

At the post-mortem examination permission was only given to examine the chest. Both lungs were found to be infiltrated throughout with the growth, which also involved the pleura and the mediastinal glands. Under the microscope it presented the same appearance as the primary tumour, a very round celled sarcoma, amongst which was interspersed some cartilaginous tissue.

CASE 2 Strangulated hernia, operation, recovery—A man aged twenty one was admitted into the York County Hospital on May 30th, 1892. He had been attended by a private practitioner, who had reduced a right inguinal hernia, but on examination I found a tumour in the inguinal canal still left. Three weeks before this the patient had had gonorrhoea. The bowels were moved six hours before admission.

On admission the right testicle was swollen and tender, there was a large swelling in the right side of the scrotum and the inguinal canal up to the internal abdominal ring. This was dull on percussion and no impulse was felt on coughing. The patient had been vomiting a bile stained fluid before admission. On May 31st towards the evening sharp pain was felt in the right iliac region and across the abdomen. Vomiting occurred during the day of a copious quantity (about two pints) of bile-stained fluid containing what seemed to be intestinal casts of curdled milk enveloped in casein. The patient had not drunk two pints of fluid since admission. On June 1st he suffered most acute pain, and the sickness continued, with similar ejections, the bowels acted and flatus passed. The temperature rose in the evening to 101°. The next day the bowels acted again, some pain and sickness being complained of. The temperature in the evening was 99°. On the 3rd the bowels acted again and flatus passed. Temperature 98.2. For the next two or three days there was no action of the bowels and things remained much the same. The swelling in the scrotum and in the inguinal region, which was diagnosed to be fluid, was decreasing. On the 5th the patient vomited twice a large quantity of peculiar pea soup-like fluid after drinking some milk. No action of the bowels had taken place since the 3rd, but flatus was passed daily. During the night of the 6th the patient vomited five times, the vomit being distinctly faecal in character, and when the nurse was out of the ward he walked to the closet, when the bowels were slightly moved. The abdomen was very swollen and the pain very acute.

On the 7th Mr Jalland, in the middle of the day, the patient being under ether, cut down upon the swelling in the inguinal canal, which proved to be, as was expected, an acute hydrocele of the tunica vaginalis, extending almost up to the abdominal ring, and an enlarged testicle, but no bowel was contained in it. At the upper limit, however, the finger could just feel a small piece of bowel, evidently only a portion of the calibre of it, which with very little pressure vanished into the abdomen. This was thought to be the hernia, as nothing else was found. The wound was stitched up and a small drainage-tube introduced into the lower end. After the operation the same day, the bowels were moved five times. During the next day the temperature rose to 102.6 and three motions were passed. In three days the temperature became normal, the wound was dressed and found to have united by first intention except at the site of the drainage tube, which was then removed. During the next seven days the symptoms had all abated, the wound was comfortable the bowels were moved once by an enema. On June 17th great pain was felt round the umbilicus, and the patient could not straighten his legs on this account, but lay with his knees drawn up. Next day, after an enema, the bowels were moved and the temperature then rose to 101°. He then had diarrhoea for one day, after which the temperature fell and the patient made an uninterrupted recovery, only a slight febrile attack on each attempt to get up on July 12th and left the hospital on July 17th.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY

Resection of Intestine and Immediate Suture in Cases of Gangrenous Hernia

An ordinary meeting of this Society was held on March 28th, the President, Sir Andrew Clark, in the chair.

Mr KENDAL FRANKS read a paper on Resection of the Intestine and Immediate Suture in cases of Gangrenous Hernia. He related the case of a woman aged thirty who had an umbilical hernia of three months' duration. It became strangulated on Sept 22nd, 1891. Thirty hours and a quarter afterwards herniotomy was performed. The abdomen was found to be full of gelatinous fluid associated with an ovarian tumour. The loop of intestine proved to be gangrenous. Nine inches and a quarter were excised and the ends of the intestine immediately united by means of Gily's suture. The abdominal cavity was closed, and a glass drainage-tube inserted, but was removed on the fourth day. The bowels acted regularly after the fifth day and recovery was complete. Five weeks later the abdomen was again opened, and the ovarian multilocular semi solid cyst was removed. The sutured intestine was inspected, the union was perfect, the line of union could be felt as a thickening in the gut, but could not be detected by the eye. Mr Franks discussed (1) the co existence of ascites with strangulated hernia, and (2) the treatment of gangrenous hernia. The various methods of treatment were reviewed, and the following were some of the conclusions arrived at. Gangrenous hernia might be treated on one of two principles, either by resection and immediate suture or by the formation of an artificial anus. The latter necessitated a secondary operation for its cure either by the use of Dupuytren's enterotome, or by secondary resection and suture. To estimate the relative merits of these two principles of treatment, the death rate of immediate resection and suture must be compared with the death rate following the formation of an artificial anus, plus the death rate of the secondary operation required for its cure. The death rate in cases of gangrenous hernia treated by the formation of an artificial anus was 80.7 per cent. The death rate of secondary resection and suture for the cure of artificial anus was 38 per cent. The death rate following the use of the enterotome was 7.3 per cent. The mortality which attended resection and immediate suture in gangrenous hernia was shown in a table, presented to the Royal Medical and Chirurgical Society of 220 published cases to be 48 per cent. Mr Franks concluded that intestinal resection and suture should be the operation of choice in gangrenous hernia, and that simple enterotomy followed by the formation of an artificial anus, should be reserved for absolutely special cases and should be considered as an exceptional procedure.

Mr JONATHAN HUTCHINSON, jun, mentioned a case of a woman aged forty who had had a strangulated hernia for three days. On opening the sac he found the included portion of the gut gangrenous, and there was commencing peritonitis. He then opened the abdomen in the middle line removed altogether twelve centimetres of the intestine, and having taken care to be well away from any damaged portion. The piece removed was shown to the Society and exhibited clearly where the gut had been gripped in the strangulation and some two inches on either side. He had not found clamps of much use and preferred the fingers of an assistant for this purpose. He had used a continuous suture for the mucous membrane and Lembert's suture of fine silk for the rest of the wall in joining the ends of the intestine together. The sac was removed at the first opening and so a radical cure was performed. The patient made an uninterrupted recovery. In this case, although no taxis had been attempted, inflammatory changes above the seat of the stricture had set in. The mucous membrane was ulcerated quite through and there was commencing peritonitis. One question in these cases was whether the section through the intestine should be oblique in order to prevent stricture. In his opinion this was not necessary. Another question was whether the resection could be performed at the site of the hernia or through an opening in the middle line. He was in favour of the

latter plan, as after suture the thickness of the gut was increased, and it might be difficult or even impossible to return it through a femoral or even through an inguinal ring.

Mr LOCKWOOD said that surgeons up to the present appeared to have been averse to accept resection, their objection being based on statistical grounds. He agreed with Mr FRANKS that resection was an ideal operation. He preferred resecting the intestine through the original wound and cutting through Poupart's ligament if there was any difficulty in replacing the sutured gut. He considered that method of suture the best with which the surgeon was most familiar.

Mr A. E. BARKER emphasised the importance of removing enough mesentery and intestine to insure having healthy tissues to suture together. He preferred to resect through a median incision, as greater freedom for manipulation of the mesentery and intestine was allowed. The plan that he advocated was to remove all the gangrenous parts through the hernial wound and to close temporarily with ligatures the ends of the intestine and then resect them through a median incision. With reference to statistics he suggested that when an artificial anus was made the cases were very desperate, enterectomy being performed in the more favourable ones.

Mr BOWLBY agreed with the position that Mr FRANKS had taken up though he thought that he had perhaps taken a too favourable view of the operation. From statistics gathered from St Bartholomew's, Guy's and St Thomas's Hospitals by Mr Berry over a period of ten years, it appeared that the mortality for all cases of strangulated hernia operated upon was 44 per cent. on 946 cases. The statistics for St Bartholomew's Hospital, which he had himself collected showed a mortality of a little over 40 per cent. Mr FRANKS statistics for resection were almost as good and the explanation of this was probably that unfavourable cases had not all been recorded. It was remarkable how many times some of the surgeons mentioned by Mr FRANKS had performed this operation of resection, as out of the enormous number of cases of hernia admitted into St Bartholomew's Hospital in the last ten years, in only forty two was the intestine gangrenous. It might be inferred, therefore, that resection had occasionally been performed in cases in which the intestine was not gangrenous.

Mr THOMAS SMITH agreed with Mr Bowlby that the term "gangrenous" conveyed a different meaning to different operators. The great obstacle to the operation was the depressed condition of so many of the patients, which rendered them unsuitable subjects for so prolonged an operation. He did not approve of the use of Senn's plates in these cases. He added that in every case of artificial anus a further operation was not always needed, as occasionally they tended to recover without interference.

Mr CLEMENT LUCAS said that in resection in cases of femoral hernia one question which would have to be settled sooner or later was whether the operation should be completed at the seat of the hernia or through a median incision.

Mr FRANKS in reply stated that he had found the fingers of a capable assistant to be the best form of clamp, that an oblique section was the proper one and that more should be taken from the convexity than from the concavity, and that if the condition of the intestine was doubtful it was better to remove the doubtful part than to risk returning a gangrenous portion into the abdomen. A plan adopted by German surgeons was to fasten the doubtful portion to the abdominal wall and to watch it for twenty four hours, and then to resect or return it according to circumstances. He said that apparently large pieces of intestine could be removed without doing any harm to the patient and without increasing the risk but that it was very dangerous to leave or suture any unhealthy tissue. In cases of femoral hernia he preferred to open the sac and to clean the parts and then to resect them through a median incision. With regard to sutures, he had always adopted Gily's plan up to the present, but in future intended to use the continuous method. The mortality was probably about 56 per cent which was much lower than in cases of artificial anus. He referred to a case of colectomy for malignant growth which he had published in the Society's Transactions for 1889 and stated that the patient was at the present time alive and well.

The PRESIDENT observed that the duration of time needed for the operation of resection had not been, he thought adequately discussed and that, from a physician's point of view, it was a very important one.

OTHER METROPOLITAN MEDICAL SOCIETIES

HARVEIAN SOCIETY OF LONDON.—A meeting of this Society was held on March 23rd, Mr Malcolm Morris, President, in the chair.—Dr H. A. CALEY read a paper on a case of Simple Ulcerative Colitis, the patient recovering after a long illness. It presented severe constitutional symptoms, those of toxæmia and exhaustion, together with local symptoms (tenderness, bleeding, diarrhoea), clearly referable to extreme ulceration of the large intestine.—Dr SIDNEY PHILLIPS said that six cases had come under his own observation at the bedside or in the post-mortem room. There might be no mælena throughout, though the intestine was deeply ulcerated and perforations had occurred. Perforation might take place with no pain or signs of collapse, and feces might pass into the peritoneal sac for days before death.—Dr SOLOMON SMITH said that in his experience mæla, in consequence of the copious stools to which it gave rise, was far from being a form of diet which gave rest to the colon. It appeared to him that in cases of ulceration hæmorrhage was far more likely to be produced by stretching and distension of the intestine by the gases of decomposition than by mere movement.—Dr ALDESON stated that in cases occurring in children he had found nitric acid with very minute doses of opium useful.—Dr BOXALL remarked that ulcerative colitis was the main feature of mercurialism occurring as the result of sublimate douching in obstetric practice. The symptoms present in most of the cases which had come under his notice were abdominal pain and distension, diarrhoea, tenesmus, with mucus and blood in the stools, and little or no fever, but the more generally recognised evidences of mercurialism, such as salivation, loosening of teeth line on the gums and metallic taste were usually either entirely absent or but slightly pronounced. It was highly essential to bear this in mind and on the first indication of symptoms to stop the use of the mercury to prevent further absorption and to promote speedy elimination. He had been present at the necropsy of two cases in which mercurial douching had been persisted in under the impression that the symptoms betokened septic poisoning. On examination the colon was in each case found to be inflamed and studded with numerous ulcers, especially in the region of the ileo cæcal valve, and in one spot in the more advanced case was actually necrotic and bordering on perforation.—Mr PENTON BEALE asked whether any bacteriological examination had been made.—Dr CALEY replied.—Mr TREVES discussed the Pathology of Typhilitis and certain points in its clinical aspect. He pointed out that the majority of cases of typhilitis recover under medical treatment and that only a certain proportion of the cases of relapsing typhilitis call for operation. Before operating in the relapsing form one or other of the following conditions should be present (1) The attacks are numerous, (2) they are increasing in frequency and severity, (3) the last attack has been alarming, (4) the patient is rendered an invalid, (5) there is evidence of pus about the vermiform process, (6) in every case the enlarged appendix should be capable of being demonstrated during the quiescent period. Mr Treves then described the details of the operation and concluded by giving a description of fourteen cases of removal of the appendix for relapsing typhilitis which had been under his care all of which recovered.—Mr EASTES considered that the cases usually seen by the members of that Society were of a less serious character than those described by Mr Treves, but that the treatment required for those milder cases was equally definite and should consist of absolute rest in the recumbent posture, semi-starvation, liquid diet alone, and the use of an opiate with some belladonna to prevent constipation.—Mr CRIPPS LAWRENCE mentioned having treated cases, one some six years ago, with anti rheumatic remedies with marked benefit. In an experience of some years, including a fair proportion of cases of typhilitis in various forms he could not recall any that had necessitated operation.—Dr SOLOMON SMITH Dr SIDNEY PHILLIPS Dr WILLIAM HILL and Mr HUBERT PHILLIPS also took part in the discussion.—Mr TREVES replied.

ISLINGTON MEDICAL SOCIETY.—At the last meeting of this Society Dr ALEXANDER MORISON read a paper on the Causes and Treatment of Dilatation of the Heart, in which he con-

incision, where some serum from the joint continued oozing out, this eventually completely healed. The patient was quite well and able to leave the hospital by the middle of December, but stayed for Christmas to be present at the Christmas tree entertainment.

Towards the end of December she had symptoms of pleurisy on the right side. The chest was tapped with a fine aspirator, but only a small quantity of blood stained fluid was drawn off. From this time the girl began to fail, losing flesh, and the chest trouble was evidently spreading, the left side becoming affected, until she died on Jan 24th, 1893.

At the post-mortem examination permission was only given to examine the chest. Both lungs were found to be infiltrated throughout with the growth, which also involved the pleura and the mediastinal glands. Under the microscope it presented the same appearance as the primary tumour, a very round celled sarcoma, amongst which was interspersed some cartilaginous tissue.

CASE 2 Strangulated hernia, operation, recovery—A man aged twenty one was admitted into the York County Hospital on May 30th, 1892. He had been attended by a private practitioner, who had reduced a right inguinal hernia, but on examination I found a tumour in the inguinal canal still left. Three weeks before this the patient had had gonorrhoea. The bowels were moved six hours before admission.

On admission the right testicle was swollen and tender, there was a large swelling in the right side of the scrotum and the inguinal canal up to the internal abdominal ring. This was dull on percussion and no impulse was felt on coughing. The patient had been vomiting a bile-stained fluid before admission. On May 31st towards the evening sharp pain was felt in the right iliac region and across the abdomen. Vomiting occurred during the day of a copious quantity (about two pints) of bile stained fluid containing what seemed to be intestinal casts of curdled milk enveloped in casein. The patient had not drunk two pints of fluid since admission. On June 1st he suffered most acute pain, and the sickness continued, with similar ejections, the bowels acted and flatus passed. The temperature rose in the evening to 101. The next day the bowels acted again, some pain and sickness being complained of. The temperature in the evening was 99°. On the 3rd the bowels acted again and flatus passed. Temperature 98.2. For the next two or three days there was no action of the bowels and things remained much the same. The swelling in the scrotum and in the inguinal region, which was diagnosed to be fluid, was decreasing. On the 5th the patient vomited twice a large quantity of peculiar pea soup-like fluid after drinking some milk. No action of the bowels had taken place since the 3rd, but flatus was passed daily. During the night of the 6th the patient vomited five times, the vomit being distinctly faecal in character, and when the nurse was out of the ward he walked to the closet, when the bowels were slightly moved. The abdomen was very swollen and the pain very acute.

On the 7th Mr Jalland, in the middle of the day, the patient being under ether, cut down upon the swelling in the inguinal canal, which proved to be, as was expected, an acute hydrocele of the tunica vaginalis, extending almost up to the abdominal ring, and an enlarged testicle, but no bowel was contained in it. At the upper limit, however, the finger could just feel a small piece of bowel, evidently only a portion of the calibre of it, which with very little pressure vanished into the abdomen. This was thought to be the hernia, as nothing else was found. The wound was stitched up and a small drainage tube introduced into the lower end. After the operation the same day, the bowels were moved five times. During the next day the temperature rose to 102.6° and three motions were passed. In three days the temperature became normal, the wound was dressed and found to have united by first intention except at the site of the drainage-tube, which was then removed. During the next seven days the symptoms had all abated, the wound was comfortable, the bowels were moved once by an enema. On June 17th great pain was felt round the umbilicus, and the patient could not straighten his legs on this account, but lay with his knees drawn up. Next day, after an enema, the bowels were moved and the temperature then rose to 101°. He then had diarrhoea for one day, after which the temperature fell and the patient made an uninterrupted recovery only marred by a slight febrile attack on each attempt to increase the diet. He got up on July 12th and left the hospital quite well on July 17th.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY

Resection of Intestine and Immediate Suture in Cases of Gangrenous Hernia

AN ordinary meeting of this Society was held on March 28th, the President, Sir Andrew Clark, in the chair.

Mr KENDAL FRANKS read a paper on Resection of the Intestine and Immediate Suture in cases of Gangrenous Hernia. He related the case of a woman aged thirty who had an umbilical hernia of three months' duration. It became strangulated on Sept 22nd, 1891. Thirty hours and a quarter afterwards herniotomy was performed. The abdomen was found to be full of gelatinous fluid associated with an ovarian tumour. The loop of intestine proved to be gangrenous. Nine inches and a quarter were excised and the ends of the intestine immediately united by means of Gily's suture. The abdominal cavity was closed, and a glass drainage tube inserted, but was removed on the fourth day. The bowels acted regularly after the fifth day and recovery was complete. Five weeks later the abdomen was again opened, and the ovarian multilocular semi solid cyst was removed. The sutured intestine was inspected. The union was perfect, the line of union could be felt as a thickening in the gut, but could not be detected by the eye. Mr Franks discussed (1) the co-existence of ascites with strangulated hernia, and (2) the treatment of gangrenous hernia. The various methods of treatment were reviewed, and the following were some of the conclusions arrived at. Gangrenous hernia might be treated on one of two principles, either by resection and immediate suture or by the formation of an artificial anus. The latter necessitated a secondary operation for its cure, either by the use of Dapuytren's enterotome, or by secondary resection and suture. To estimate the relative merits of these two principles of treatment, the death rate of immediate resection and suture must be compared with the death rate following the formation of an artificial anus, plus the death rate of the secondary operation required for its cure. The death rate in cases of gangrenous hernia treated by the formation of an artificial anus was 80.7 per cent. The death rate of secondary resection and suture for the cure of artificial anus was 38 per cent. The death rate following the use of the enterotome was 7.3 per cent. The mortality which attended resection and immediate suture in gangrenous hernia was shown in a table, presented to the Royal Medical and Chirurgical Society, of 220 published cases to be 48 per cent. Mr Franks concluded that intestinal resection and suture should be the operation of choice in gangrenous hernia, and that simple enterotomy followed by the formation of an artificial anus, should be reserved for absolutely special cases and should be considered as an exceptional procedure.

Mr JONATHAN HUTCHINSON, jun, mentioned a case of a woman aged forty who had had a strangulated hernia for three days. On opening the sac he found the included portion of the gut gangrenous, and there was commencing peritonitis. He then opened the abdomen in the middle line removed altogether twelve centimetres of the intestine, and having taken care to be well away from any damaged portion. The piece removed was shown to the Society and exhibited clearly where the gut had been gripped in the strangulation and some two inches on either side. He had not found clamps of much use and preferred the fingers of an assistant for this purpose. He had used a continuous suture for the mucous membrane and Lembert's suture of fine silk for the rest of the wall in joining the ends of the intestine together. The sac was removed at the first opening and so a radical cure was performed. The patient made an uninterrupted recovery. In this case although no taxis had been attempted, inflammatory changes above the seat of the stricture had set in. The mucous membrane was ulcerated quite through and there was commencing peritonitis. One question in these cases was whether the section through the intestine should be oblique in order to prevent stricture. In his opinion this was not necessary. Another question was whether the resection should be performed at the site of the hernia or through a second opening in the middle line. He was in favour of the

latter plan, as after suture the thickness of the gut was increased, and it might be difficult or even impossible to turn it through a femoral or even through an inguinal ring.

Mr LOCKWOOD said that surgeons up to the present appeared to have been averse to accept resection, their objection being based on statistical grounds. He agreed with Mr FRANKS that resection was an ideal operation. He preferred resecting the intestine through the original wound and cutting through Poupart's ligament if there was any difficulty in replacing the sutured gut. He considered that the method of suture the best with which the surgeon was most familiar.

Mr A. E. BARBER emphasized the importance of removing enough mesentery and intestine to insure having healthy tissues to be are together. He preferred to resect through a median incision, as great freedom for manipulation of the mesentery and intestine was allowed. The plan that he advocated was to remove all the gangrenous parts through the hernial wound and to close temporarily with ligatures the ends of the intestine and then resect them through a median incision. With reference to statistics he suggested that when an artificial anus was made the case was very desperate, entered only being performed in the more favourable cases.

Mr BOWLEY agreed with the position that Mr FRANKS had taken up, though he thought that he had perhaps taken a too favourable view of the operation. From statistics gathered from St. Bartholomew's, Guy's and St. Thomas's Hospitals by Mr BERRY over a period of ten years it appeared that the mortality for all cases of strangulated hernia operated upon was 44 per cent. on 946 cases. The statistics for St. Bartholomew's Hospital, which he had himself collected, showed a mortality of a little over 40 per cent. Mr FRANKS' statistics for resection were almost as good and the explanation of this was probably that unfavourable cases had not all been recorded. It was remarkable how many times some of the surgeons mentioned by Mr FRANKS had performed this operation of resection as out of the enormous number of cases of hernia admitted into St. Bartholomew's Hospital in the last ten years, in only forty two was the intestine gangrenous. It might be inferred, therefore, that resection had occasionally been performed in cases in which the intestine was not gangrenous.

Mr THOMAS SMITH agreed with Mr BOWLEY that the term 'gangrenous' conveyed a different meaning to different operators. The great obstacle to the operation was the depressed condition of so many of the patients which rendered them unsuitable subjects for so prolonged an operation. He did not approve of the use of Senn's plates in these cases. He added that in every case of artificial anus a further operation was not always needed, as occasionally they tended to recover without interference.

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The PRESIDENT observed that the duration of time needed for the operation of resection had not been, he thought, adequately discussed, and that, from a physician's point of view, it was a very important one.

OTHER METROPOLITAN MEDICAL SOCIETIES

HARVEY SOCIETY OF LONDON—A meeting of this Society was held on March 23rd, Mr Malcolm Morris, President, in the chair.—Dr H. A. CALEY read a paper on a case of Simple Ulcerative Colitis: the patient recovering after a long illness. It presented severe constitutional symptoms: those of toxæmia and exhaustion together with local symptoms (tenderness, bleeding diarrhoea) clearly referable to extreme ulceration of the large intestine.—Dr SIDNEY PHILLIPS said that six cases had come under his own observation at the bedside or in the post-mortem room. There might be no melæna throughout though the intestine was deeply ulcerated and perforations had occurred. Perforation might take place with no pain or signs of collapse, and faeces might pass into the peritoneal sac for days before death.—Dr SOLOMON SMITH said that in his experience milk, in consequence of the copious stools to which it gave rise, was far from being a form of diet which gave rest to the colon. It appeared to him that in cases of ulceration hemorrhage was far more likely to be produced by stretching and distension of the intestine by the gases of decomposition than by mere movement.—Dr ALDERSON stated that in cases occurring in children he had found nitric acid with very minute doses of opium useful.—Dr BOXALL remarked that ulcerative colitis was the main feature of mercurialism occurring as the result of sublimated douching in obstetric practice. The symptoms present in most of the cases which had come under his notice were abdominal pain and distension, diarrhoea, tenesmus, with mucus and blood in the stools and little or no fever, but the more generally recognized evidences of mercurialism, such as salivation, loosening of teeth, line on the gums and metallic taste were usually either entirely absent or but slightly pronounced. It was highly essential to bear this in mind and on the first indication of symptoms to stop the use of the mercury to prevent further absorption and to promote speedy elimination. He had been present at the necropsy of two cases in which mercurial douching had been persisted in under the impression that the symptoms betokened septic poisoning. On examination the colon was in each case found to be inflamed and studded with numerous ulcers, especially in the region of the ileo-caecal valve, and in one spot in the more advanced case was actually necrotic and bordering on perforation.—Mr PEYTON BRADLE asked whether any bacteriological examination had been made.—Dr CALEY replied.—Mr TREVES discussed the Pathology of Typhlitis and certain points in its clinical aspect. He pointed out that the majority of cases of typhlitis recover under medical treatment and that only a certain proportion of the cases of relapsing typhlitis call for operation. Before operating in the relapsing form one or other of the following conditions should be present: (1) The attacks are numerous, (2) they are increasing in frequency and severity, (3) the last attack has been alarming, (4) the patient is rendered an invalid, (5) there is evidence of pus about the vermiform process, (6) in every case the enlarged appendix should be capable of being demonstrated during the quiescent period. Mr Treves then described the details of the operation and concluded by giving a description of fourteen cases of removal of the appendix for relapsing typhlitis which had been under his care all of which recovered.—Mr EASTES considered that the cases usually seen by the members of that Society were of a less serious character than those described by Mr Treves but that the treatment required for those milder cases was equally definite and should consist of absolute rest in the recumbent posture, semi-starvation liquid diet alone, and the use of an opiate with some belladonna to prevent constipation.—Mr CRIPPS LAWRENCE mentioned having treated cases: one some six years ago with anti-rheumatic remedies with marked benefit. In an experience of some years, including a fair proportion of cases of typhlitis in various forms he could not recall any that had necessitated operation.—Dr SOLOMON SMITH, Dr SIDNEY PHILLIPS, Dr WILLIAM HILL and Mr HUBERT PHILLIPS also took part in the discussion.—Mr TREVES replied.

ISLINGTON MEDICAL SOCIETY—At the last meeting of this Society Dr ALEXANDER MORISON read a paper on the Causes and Treatment of Dilatation of the Heart, in which he con-

sidered (1) the relation of the nervous system to the condition under consideration, (2) the conditions of the heart itself as to (a) its mechanical efficiency, (β) its nutrition, (γ) its contents—the quality and quantity of the blood, (3) the influence of the extra cardiac vascular system—systemic, arterial, venous and pulmonary, (4) the influence of diaphragmatic and general muscular activity and the retardation of these important functions by obesity, (5) the influence of extra corporeal conditions and agents—namely (a) atmospheric pressure, its diminution and increase, and also the effect of variations in temperature, (β) the influence of accidents, including shock, (γ) the effect of improper quantity in food and drink, (δ) the influence of drugs. From the limited time at his disposal Dr Morison naturally dealt cursorily with several of these topics, but emphasised the importance of the nervous factor in these cases and discussed at length the importance of the coronary blood having a maximum oxygenation. He considered heart-failure from nerve influence to be at least of two kinds—namely, (1) vagus inhibition from gastro intestinal contraction or emotional shock, and (2) exhaustion of the cardiac reflex centre from sustained over action of the heart due to disease or undue exertion. Amongst other points of treatment he discussed the views of Dr Oertel of Munich.

MIDLAND MEDICAL SOCIETY

MEETINGS of this Society were held on Feb 8th and 22nd at the Medical Institute, Birmingham, Mr Eyles, President, being in the chair.—Mr WOOD WHITE showed a woman aged thirty with a Sarcoma growing from the periosteum of the inner wall of the orbit and the side of the nose. Two months before her admission to the Eye Hospital a discharge was noticed from the nose on the same side, and examination showed that the upper part of the organ was occupied by a soft spongy and vascular growth.—Dr PURSLOW showed a Multilocular Ovarian Cyst which he had removed by abdominal section from a woman aged forty six at the Queen's Hospital. The tumour had been noticed for four months and at the time of operation was about the size of the uterus at term. A median incision three inches long was made, the larger cyst was evacuated by the trocar, and several smaller cysts were broken up by the trocar and finger and the mass withdrawn from the abdomen. The fluid measured 169 oz., and the remaining part of the tumour weighed 31 oz. No flushing or drainage tube was used, and the patient made an excellent recovery.—Dr MALINS showed (1) a large Hæmatosalpinx and (2) a Dermoid Cyst of the Ovary. He also exhibited a Myeloid Sarcoma of the Humerus with spontaneous fractures from the arm of a boy aged ten years. Two years ago he fell and fractured his humerus, the year following he fell and fractured it again, and six months ago he again fell and injured his arm. Since the first injury he had always noticed a lump in his arm, but it did not increase in size until after the last one. This specimen raised the question as to whether the sarcoma was the result of the various injuries, or whether the fractures were secondary to the new growth.—Mr HASLAM read a paper on the Value of the Ligation of the Lingual Arteries in Malignant Disease of the Tongue.—Mr THOMAS exhibited a boy, aged twelve, who had an Ununited Fracture of the Right Clavicle. When about a year and a half old his clavicle was fractured by an accident, but he was treated at one of the hospitals, non union seemed to have resulted. The following was the present condition. The right clavicle had been fractured a little externally to the centre. The fractured ends could be readily separated and moved, but in a state of rest the outer fragment lay below and in contact with the inner for nearly an inch, there was well marked fibrous union between the fractured ends. The shaft of the clavicle was atrophied, but the muscles of the shoulder, and especially the deltoid, were much hypertrophied. Any kind of movement of the upper extremity could be performed with ease and quickness. As such complete use of the arm was acquired Mr Thomas had given up the idea of any further operative proceedings.—Mr MARSH showed a youth aged twenty, the Right Lobe of whose Thyroid Gland, with the central part, he had excised three weeks before for acute bronchocela, causing dyspnoea. The enlargement of the neck had only been noticed four months prior to admission into hospital on Feb 2nd. There were no cardiac symptoms or exophthalmos, but the veins on the

A median incision was employed and the patient made a rapid recovery.—Mr WOOD WHITE showed for Dr SUCKLING a woman aged forty two, suffering from Paraplegia supervening upon Exophthalmic Goitre. Dr Suckling considered that descending sclerosis of the motor tracts had followed upon a lesion in the region of the floor of the aqueduct of Sylvius.—Mr WOOD WHITE showed a boy aged six with a firm, elastic and fairly movable tumour growing from the upper part of his right orbit and bulging the upper eyelid. The growth was first noticed six months previously, and, three months before admission to the Eye Hospital, was removed at another institution. It recurred very rapidly, and Mr White had no doubt that the tumour was a sarcoma, he contemplated its removal at once, sparing if possible the eyeball.—Dr SHORT showed a man aged sixty two who during the last eighteen months had passed two large Gall stones weighing respectively 309 grs and 214 grs, at an interval of eight months. A review of the symptoms made it most probable that the stones had ulcerated from the gall bladder into the hepatic flexure of the colon. The first calculus was perfectly smooth and the second was faceted at each end.

Reviews and Notices of Books.

Text book of the Embryology of Man and Mammals. By Dr OSCAR HERTWIG, Professor Extraordinarius of Anatomy and Comparative Anatomy, Director of the Second Anatomical Institute of the University of Berlin. Translated from the Third German Edition by EDWARD L. MARK, Ph.D., Hersey Professor of Anatomy in Harvard University. Pp 670, with 339 Figures in the Text and 2 Lithographic Plates. London: Swan Sonnenschein and Co 1892.

DR. MARK has done good service to the student in translating this valuable treatise into English. Although in Balfour's great work, in Foster's Embryology and in Haddon's work the main facts in development are placed within the reach of the morphologist and the physiologist, room still remained for such a *résumé* of the whole subject as that before us. Balfour's treatise is now twelve years old, and much has been done in the way of observation and many improvements in the means of staining have been effected in the interval. Foster's excellent little manual is chiefly concerned with the fowl. Haddon's text-book is short, and also restricted in its scope. Hertwig is himself known as an original worker, and the reader will find in these pages a fairly full and satisfactory account of all that has been done in this department of science up to the spring of 1890. The translator must have worked hard to have completed his translation in the course of a year and a half, especially as the rendering of the German is all that could be desired in clearness and accuracy.

The work is divided into two parts, the first of which deals with the early stages of development of the ovum, whilst the second part is occupied with the development of the organs. The earliest changes that take place in the unfecundated egg or those accompanying maturation of the ovum, is the translation of the germinative vesicle from the centre to the surface, the shrivelling of the vesicle coincidentally with the escape of fluid from its interior, the disappearance of its nuclear membrane and the breaking up of the germinative clot, and finally the formation of the nuclear spindle and the extrusion of the polar cells or direction globules, are all carefully given. The author was himself the first to point out that a distinction must be drawn between the nucleus of the immature mature and the fertilised egg, or in his nomenclature between the germinative vesicle, the egg nucleus and the cleavage nucleus. He remarks that, although the researches on the phenomena of maturation still present numerous gaps, it may, nevertheless, be held "that eggs with a germinative vesicle are

never capable of fertilisation, that the germinative vesicle is without exception dissolved, and that there is formed out of its components a very small egg nucleus." During the change polar cells are extruded. In regard to the polar cells no satisfactory explanation has been advanced but he notes the discovery by Weismann and Blochmann that in eggs which are developed parthenogenetically only a single polar cell arises. By some these cells have been considered to be male constituents of the original hermaphroditic egg which are thrown out to be subsequently replaced by fertilising germinal elements of the male. Hertwig himself however inclines to the opinion that the ovum was originally capable of dividing into many cells or eggs and that the polar cells are really abortive eggs.

A very interesting section is devoted to the history of the vertebral theory of the skull. The attempt to solve the problem of the composition of the skull was made by Owen and Goette, the former of whom recognised three vertebrae in this part of the skeleton which he named respectively the ear, eye, and jaw vertebra, and he and Goethe pointed out the general similarity that exists between a vertebra and the occipital bone whilst an effort was made to show a similar analogy between a vertebra on the one hand and the posterior body of the sphenoid, with its greater wing, and the parietal bone on the other the third cranial vertebra being represented by the anterior portion of the body of the sphenoid and the lesser wings of the sphenoid and the frontal bone. Even a fourth cranial vertebra was recognised in the ethmoid bone. In this form as Hertwig observes which underwent numerous modifications in details, the Owen Goethe vertebral theory of the cranium dominated morphology for decades and formed the foundation of many investigations. "It had a stimulating and fruitful effect until with a deeper insight into the structure of vertebrates it was abandoned as defective and erroneous giving way before the force of numerous newly discovered facts." Owen, who devoted so many months or years to this subject, is not even mentioned. Huxley first ventured to attack the view which threatened to become an accepted one, on embryological grounds maintaining that no single cranial bone can be recognised as a modification of a vertebra, that the skull is no more a modified vertebral column than the vertebral column is a modified skull, that, rather, both are essentially distinct and different modifications of one and the same structure. Gegenbaur next taking up the subject where Huxley had left it, produced evidence, also derived from embryological research, that the primordial cranium has arisen by fusion from a number of segments these segments being equivalent to but not modifications of vertebrae. He dwells upon the arrangement of the chief nerve trunks and holds that there are in the cranium nine pairs of segments which early fuse together, but whose original separation is still indicated by the passage through them of the nine segmentally arranged cranial nerves. Hertwig then proceeds to give his own views on the points in dispute.

The long discussion in regard to the origin of the *ossicula auditus* seems to be in a fair way of settlement, the incus and malleus being segments of the proximal portion of the rod which is familiar to all as Meckel's cartilage, whilst the stapes appears to have a double origin, the plate which fits into the fenestra ovalis being differentiated, as Parker maintained, from the cartilaginous capsule of the labyrinth, and therefore corresponding with the operculum of the amphibia, whilst the arches proceed from the upper end of the second visceral or hyoid arch which lies in contact with the capsule of the labyrinth, the ring like form being due to the circumstance that the tissue from which it is formed is traversed by a small branch of the carotis interna, named the arteria mandibularis or perforans stapedia. The malleus and incus therefore belong to the first visceral arch and the

stapes to the second, and this view is supported as Huxley has pointed out, and as is admitted by Hertwig, by the fact that the muscle of the stapes is supplied from the nerve of the second visceral arch the nervus facialis, whilst the muscle of the malleus receives a branch of the trigeminal which is the nerve of the mandibular arch.

The difficult and obscure subject of the development of the bloodvessels and of the blood on which the last word has been by no means said is well handled, and the conflicting views of Kölliker and his adherents that they arise from the mesoblast and of Rücker, Strann and, it might have been added of Cornu that they are primarily derived from the cells of the hypoblast are clearly given on the whole. The author does not consider the question of the source of the cell layer in which in the region of the opaque area, the formation of blood takes place as ready for final judgment, but as regards the further changes by means of which the cell layer under consideration is converted into connective tissue and blood he adheres to Kölliker's views. To several of the chapters a historical appendix is added which is in every instance valuable, giving an admirable account of the mode in which the views at present held have been evolved from the loose statements of the older observers and writers. In conclusion the work may be taken throughout as an authoritative exposition of the present state of our knowledge of embryology.

Bibliothèque Photographique de l'Hôpital de la Salpêtrière. Application des Sciences Médicales et Physiologiques. Par ALBERT LONDE. Paris Gauthier Villars et Fils. 1893.

Most of those who have followed M. Charcot's publications are by this time well acquainted with the admirable photographic representations he introduces in order that he may add to the value of his descriptions and have also recognised that these photographs can only be the result of most careful study and of the application of an almost perfect technique. We have now in our hands a most admirable manual on medical photography by M. Londe, Directeur du Service Photographique à l'Hôpital de la Salpêtrière in which are combined both descriptions of methods and of apparatus and very fine examples of the art that he describes. The work is very complete not only in the fact that it gives all this information but also in that it indicates very clearly to what extent photography may be called in to assist in making permanent records of medical observations—in the term "medical" must also be included 'physiological' records for of the examples and plates given some of the most admirable are those made to record physiological experiments. To indicate the lines on which the author proceeds we may merely give an example. All who have worked at photography of special limbs and feature know how difficult it is to ensure the hand for instance, keeps perfectly still whilst a photograph is being taken, in some cases it is impossible, in others it may be managed comparatively easily. In the former instances M. Londe simply takes photographs first instantaneously and then gradually increasing the length of exposure, knowing the exact exposure in every instance. He is thus able to determine at what rate movements are taking place, through what range these movements go on, and by the distinctness of the different images of the moving hand to determine which movements occur most frequently. Where it is possible to keep the hand at rest this is done by placing the thumbs together where the back of the hand is to be reproduced, and the little fingers together where the palm has to be reproduced, resting them on a kind of sloping desk in front of the patient. In this way the most minute details may be brought out very distinctly, the photographs serving in some instances the purpose even of a delicate cast. A few other examples may be mentioned—viz., plates illustrating deviation of the vertebral column in the case of

syngomyelia, the positions and movements of patients suffering from paralysis agitans, the position of the head in cases of hysteria, appearances of the features in acromegaly and paralysis agitans, the appearance of the feet in acromegaly and in cases of epilepsy, the rhythmical movements seen in chorea, a series of photographs of the effects produced by faradaic currents on certain of the facial muscles, the phases through which an epileptic passes, the photograph of epileptic walks and of rapid movements, specimens of reproduction of writing, anatomical photographs such as those of the brain and of sections of the spinal cord, of various forms of cultures, of the hands of different artisans, showing the special features by which these are characterised, and of other medico-legal subjects. The photographing of microscopic specimens and of test tube cultures is also mentioned, whilst the treatment of negatives, the preparation of positives for lantern work, the preparation of mechanical prints, of gelatine printing plates and the like, complete the work, which is one that should be in every hospital and in the library of every laboratory.

Mineral Springs and Health Resorts of California By WINSLOW ANDERSON M.D., M.R.C.P. Lond. M.R.C.S. Eng., Joint Editor of the *Pacific Medical Journal* San Francisco The Bancroft Company 1892.

THIS work is a prize essay which obtained the annual prize of the Medical Society of the State of California for the year 1889. The writer has personally visited the prominent mineral springs and health resorts of California and has satisfied himself that this State possesses "as valuable mineral springs as any to be found in the world" and "that all that is needed to make them as serviceable in the restoration and maintenance of health as their famous sister springs in the East and in Europe is their further development, their chemical analysis and the scientific administration and application of their waters." The author, after obtaining analyses of every European and American spring of any note, has applied himself to the task of analysing the Californian waters and comparing the results. He is of opinion that "the Californian waters compare favourably with those of the European and Eastern States, in fact, many of them are almost identical in composition." The work contains the names of over two hundred Californian springs, with about one hundred analyses, besides two hundred analyses of all the famous springs in America and abroad. Short sketches are introduced on the fertility and natural productions of California, its history, climate rainfall &c., and there are also comparative thermometrical tables. The work is profusely illustrated, the illustrations being fairly well executed, but for the most part such as we are accustomed to more in a book of travels than in a scientific work. Writers on climate, meteorology, balneo therapy, &c., and kindred questions are beset with the difficulty that no materials for scientific precision with regard to these important subjects hardly exist and the temptations to flowery description and "tall talk" are very strong. Dr Anderson makes laudable efforts to collect as many scientific data as possible, and his tables of analyses of Californian springs are much the most complete with which we are acquainted, but he repeatedly wanders off into enthusiastic panegyrics upon "the golden west," "the balmy luxuriance" of the climate &c., and he studs his pages with poetical extracts, often of rather hazy eloquence.

The most striking feature of the Californian springs is their variety. Amongst the hundred springs of which the author supplies analyses examples are found of all the chief varieties of spa. Alkaline and alkali carbonated springs are numerous. One of these—Etna Springs—has a composition closely resembling that of the Ems waters, both containing chloride and carbonate of sodium and carbonate of magnesium and

calcium. Light carbonated waters, either simply mildly alkaline or containing small quantities of iron or sulphur, are found at Agua de Vida, Allen Springs and elsewhere. Stronger ferruginous and sulphurous springs abound. At Anderson Springs in Lake County are found mild alkali-sulphuretted waters, mild chalybeate waters, springs containing free sulphuric acid, light saline sulphurous waters, a magnesium spring rich in Epsom salts and a hot sulphurous spring used for bathing. This variety of waters in a single locality is typical of the wealth of California in mineral springs. Borax springs are amongst those most characteristic of the country. They are found in various parts of the State. The author informs us that during the last twenty years California has produced \$5 000 000 worth of borax. Moor or mud baths in association with hot saline and sulphur waters are found at Byron Springs in Contra Costa County, about sixty-eight miles north east of San Francisco. This seems to be one of the most notable of the Californian spas, containing more than fifty springs, some hot, others cold, carbonated, saline, sulphurous, chlorinated &c. We have not space to follow the author through his description of these and other springs.

There can be little doubt that a great future lies before California as a sanatorium. It possesses three grand requisites for such a purpose—viz., a very fine climate, great natural beauty, and great wealth of mineral waters. Of the climate much has been written, and, in spite of the occasional extravagances of enthusiastic writers, we may fairly admit that its merits entitle it to rank amongst the best climates in the world. The most favoured part is probably that constituting the littoral and adjoining regions from Monterey to San Diego. Whilst admitting that the enthusiasm of writers on California has very solid foundations in fact, we would counsel such writers to give us a little less eloquence and a little more of accurate and well sifted scientific data.

Ueber Echinokokkus der Pleura und die ihn vortäuschenden Localisationen der Echinokokkenkrankheit Von Professor Dr. CARL MAYDL. Wien. Verlag von Josef Sáfár 1891.

DR CARL MAYDL, in his monograph on echinococcus of the pleura gives a fairly complete account of this comparatively rare disease. He supplies workers with abstracts of statistics and pathological records collected by various observers who have come across cases, and from his remarks on these we gather that he considers the prognosis exceedingly bad unless operation be resorted to. He gives very good tables for diagnosing solid from cystic tumours and intra-thoracic echinococci from pleuritic exudations. He points out that in the former case the pain is longer continued and that it is not so strictly localised, that the dyspnoea is much more marked and leads to far graver results, that the expansion of the thorax is more irregular and also more circumscribed, that the dullness of percussion is localised and that it is not specially marked at the lower and posterior part of the chest, also that there is no well defined "water line" of such dullness, that it may extend to the opposite side of the chest without filling up the whole of one side, that the respiratory murmurs are completely lost, that bronchophony and egophony are absent, that there is little fever, but that in the later stages of the disease there is great cachexia, anæmia and emaciation.

As regards the treatment, the author evidently believes in puncture with or without the injection of iodine, though he seems to prefer simple operation with the use of antiseptics. He points out that it is of course, often necessary to incise and even to remove some of the ribs in order to obtain the best results. In fact, he seems to think that the more radical the treatment (taking the nature and the extent of the disease into account), the better will it be for the patient.

LIBRARY TABLE

The Veterinary Journal London Baillière, Tindall and Cox.—The March issue of this journal contains a number of interesting papers, amongst which we may note an article by Professor De Jong on Sarcptic Scabies in the Fox, the first time this disease has been described in this animal in England, another on the Castration of a Cryptorchid Horse the operation being rendered more difficult by the presence of a serous cyst in the testicle, but the obstacle was successfully surmounted by Professor Degive, who is the director of the Brussels Veterinary School. There is also a valuable contribution to the subject of protective inoculation for swine plague from the pen of Professor Barker of the Patho Biological Laboratory of the Nebraska State University. Mr Pike of Cleveland, Ohio, describes a new malady of cattle, known in the States as the "corn stalk disease," which appears to be due to eating maize stalks late in the autumn. The cause of the disorder, which is of a rather serious character, is reported to be a vegetable parasite—a belted germ which is neither a coccus nor a bacillus though much resembling these in form. Mr Moore gives a case of tuberculosis in the dog complicated with ascite, and Professor Leclanche, of the Toulouse Veterinary School, continues his essay on Influenza in the Horse. Altogether the number of this periodical is an excellent one and contains much that is instructive to the pathologist.

Lehrbuch der Specieellen Chirurgie für Aerzte und Studierende Von Dr. FRANZ KOENIG, Ordentlicher Professor der Chirurgie, Geheimer Medicinal Rath, Director der Chirurgischen Klinik in Goettingen. Sechste Auflage. Band I. Berlin August Hirschwald. 1893.—This text book of regional surgery is too well known to need any but a brief notice from us. The author has made a careful revision of this, the sixth, edition. The second volume is in the press but it was thought better to issue the first at once and not to keep it back for its fellow, as originally intended. This volume includes the sections devoted to the injuries and diseases of the head, face and neck. The text is illustrated with 139 wood engravings.

Analytical Records

FROM

THE LANCET LABORATORY

NON IRRITATING NURSERY POWDER.

(C. H. GRIFFITHS OPENSHAW.)

THE composition of this powder according to our examination is simple. It is perfectly free from irritants is entirely soluble in hot water and contains a well known and mild antiseptic. The preparation is made attractive by the delicate and fragrant odour of rose extract.

ESSENCE OF BEEF AND CONCENTRATED BEEF TEA.

(BRUCE & CO, LIMITED ST GEORGE'S HALL, WALHAM-GREEN S.W.)

Portable and concentrated forms of food are useful and valuable in their way, but they cannot be regarded as being always fitted to replace the freshly prepared products. Whilst a desirable degree of concentration of the nutritious and stimulating elements is effected flavour is often sacrificed, and the process may not improbably affect the digestibility of the constituents. We have examined from time to time a great number of concentrated foods, notably beef extract and essences which, similar to the above are more or less satisfactory as regards flavour and degree of concentration, but, whilst many of them contain in large proportion the stimulating principles of the meat from which they are obtained, certain of them are found to be nearly if not quite destitute of the really sustaining and nutritious elements fibrin and albumen. This does not apply,

according to our examination, to the concentrated beef tea of the above firm, although we cannot agree that fibrin and albumen, and especially the former, were present in large proportion. This preparation would certainly be improved and be all the more valuable as a food if it contained more of this substance. In regard to the merely stimulating constituents of beef, however, it is highly satisfactory. Thus it contains 63.87 per cent. beef extractives, no less than 10.96 parts of which are nitrogen, whilst the mineral matter, rich in soluble phosphate, containing also common salt, amounted to 6.02 per cent. It yields a pleasantly tasting and agreeably saline liquor when dissolved in warm water. The essence is a clear amber coloured jelly which, on analysis, was found to have the following composition: Moisture, 90.23 per cent. extractives, 8.79 per cent., containing 1.65 parts nitrogen mineral matter 0.98 per cent., consisting almost wholly of soluble phosphate. It contains, therefore, the soluble constituents certain % of beef. The taste of its solution is somewhat insipid unless salt is added. Both preparations it is satisfactory to add, are free from injurious preservatives.

HARVESTS LENTIL FOOD

(W & D HARVEST LONDON F.C.)

The high amount of nitrogenous matter in the lentil has brought this pulse food into favour, but the taste of the lentil does not appeal to all palates, and hence many excellent preparations are made, of which the above is a type in which the flavour of the ground lentil is improved and made attractive by incorporating with it other ingredients without detracting from its food value. The taste of the above preparation is good, though somewhat saline. It is well suited for the preparation of soups, porridges and other forms of food. Lentil was the only form of starch that was recognised under the microscope.

DR LANGEN'S SUGAR OF MILK

(BURROUGHS BROS 66 BASINGHALL STREET, E.C.)

It is an accurate statement, we find, that this preparation is chemically pure. It dissolves completely in hot water and yields absolutely no mineral matter on incineration. Analysis gave figures which approximated to 100 per cent. real lactose, calculated on the dry product. Its uses are manifest. We must again protest against the name of a medical practitioner being made use of in the title of this or any other preparation.

PUREST ETHYLIC ETHER.

(SALMON & CO, LIMITED RAINFHAM ESSEX.)

We have carefully submitted this product to analysis, and in every respect the results obtained were satisfactory. If boiling point and specific gravity are indicative of purity, then it is irreproachable in character for the former was found to be 35°C and the latter 0.721, figures coinciding exactly with chemically pure ether. Moreover, it gave absolutely no residue on evaporation, was entirely free from acid and contained no products of oxidation or decomposition. It would be well if all preparations used in medicine were equally pure.

GENUINE OLD COGNAC

(MESSRS GAUTIER FRÈRES AND HENRI TURPIN, THIRSK, YORKSHIRE)

Chemical analysis cannot fully establish the actual origin of a spirit, but doubtless this is a genuine cognac. It is shipped from the well known house of Messrs Gautier Frères, Cognac, and each bottle bears the stamp of the "Union des Fabricants." We have submitted it to analysis, with the view of determining how far the results coincide with genuine brandy. As will be seen from the following result, they coincide in every detail. Thus the extract amounted to 1.17 per cent., the mineral matter to 0.07 per cent., the alcohol, by weight to 40.45 per cent., by volume to 47.83 per cent., equal to 83.83 per cent. proof spirit. The extractives on incineration evolved a smell which was very characteristic of genuine cognac. Rough as it may

appear, this is a test which in experienced hands affords fair evidence of the origin of the spirit. As regards alcoholic strength it is somewhat low, but the taste is peculiarly smooth and satisfactory. Much has been said about spurious brandy of late, but we have reason to believe that this is a genuine article.

VINCERDA COCA WINE

(PHILIP CERDA, 30, LEICESTER PLACE, LEICESTER SQUARE, W.C.)

The valuable therapeutic principles of the leaf of erythroxylon coca are evidently contained in this agreeable wine as on suitable treatment cocaine was successfully extracted and identified. Extended analysis gave the following results. Alcohol by weight 13.00 per cent, by volume 16.05 per cent, equal to proof spirit 28.13 per cent., extractives, 4.99 per cent., mineral matter, 0.21 per cent. In respect of spirit strength, therefore, it is similar to good port, possesses a similar flavour but is less sweet and not so full bodied. The valuable coca leaf extractives, in fact, replace to an extent the less valuable sugar of ordinary wine and they communicate an unmistakable flavour to the wine, affording some evidence of the genuineness of the preparation. The value of coca wine as a restorative and stimulant is now recognised, and where indicated the above preparation may be suitably prescribed.

EUCALYPTUS GLOBULUS OIL (PEATYPUS BRAND)

(THE TASMANIAN EUCALYPTUS OIL COMPANY 138 LEADENHALL STREET E.C.)

This preparation was marked, as all similar preparations containing a desirable proportion of eucalyptol are marked, by an especial fragrance of smell. Submitted to fractionation the following results were obtained. At 170° C 6 per cent distilled over between 170° and 172° 28 per cent, between 172° and 175° 18 per cent, between 175° and 177° 19 per cent, between 177° and 178° 3 per cent, between 178° and 180° 11 per cent, and the remaining 15 per cent. came over at points above 180° C. There were traces of water in the oil. Inasmuch as the boiling point of eucalyptol, which is regarded as the valuable active principle of eucalyptus oil, is about 176° C, it will be seen that this brand (the Peatypus) is desirably rich in this most important constituent. The specific gravity of the oil at 155° C was found to be 0.9172. Further examination elicited the admirable purity of the product. Eucalyptus is an excellent, agreeable and effectual antiseptic, and in view of the foregoing results the suitability of this specimen for all purposes where antiseptic treatment is required cannot be disputed.

SODA WATER IN SYPHONS AND A DEVICE TO SECURE ITS GREATER ORGANIC PURITY

(THE BANGOR CITY MINERAL WATER COMPANY, BANGOR, WALES)

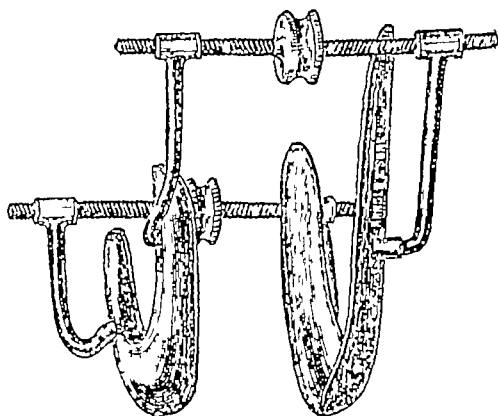
We have on a previous occasion examined the soda water made by this company, but it is only just to recognise the efforts which they have quite recently made to still further improve the quality of the aerated waters distributed in syphons. Syphons, being carefully filled, will frequently show a considerable amount of dirt or the water will exhibit a more or less opalescent appearance. This may be due to an accumulation of dust, meal or other objectionable matter in the nozzle of the syphon whilst it has been lying empty. By means of a syphon cleansing jet which this company have invented, a specimen of which we have examined, the interior of the syphon nozzle is thoroughly cleansed before it is attached to the filling machine. The jet, if it is to be used for cleaning the nozzle only is attached to the ordinary water supply, but if required also for the rinsing out of the syphon it is attached to the pressure cylinder containing carbonic acid gas. The action is entirely automatic, and twenty dozen syphons, it is stated, may be easily cleansed by means of this device in an hour. We regard this as an important advance in the manufacture of pure aerated water, as we have frequently had occasion to complain of the dirty state of soda water and its consequent organic impurity, doubtless due, not to the water as it flows from the filling apparatus, but to the accumulation of dirt in the nozzle of the syphon. It is scarcely necessary to add

that the soda water obtained from syphons so treated was found on examination to be perfectly free from organic matter. Thus the residue, on evaporation, did not show any perceptible discolouration or clearing on ignition, a test which is not responded to satisfactorily by some of the soda water commonly met with. Each syphon (one pint and a half) submitted to us by this company was found to contain 10.5 grains of bicarbonate of soda.

New Invention.

APPARATUS FOR FRACTURES OF THE LOWER JAW

The general surgeon, when called upon to treat a case of fracture of the lower jaw, commonly finds that, should a splint be necessary, he has to set aside the ordinary surgical rules for the treatment of fractures elsewhere, because of the special conditions by which this class is attended. In fractures of other bones a splint or the material for the making of one is usually at hand and can readily be applied. The common method of treating fractures of the jaw with four tailed bandage and gutta-percha may fairly be considered unsatisfactory. To provide an effective and permanent splint for the jaw the general surgeon has often to call upon a dental surgeon for a special apparatus, and thus much valuable time may be lost before the fracture can be set. I am convinced that it is to this delay that most of the troubles incidental to this kind of fracture owe their origin. The saliva, laden with decomposing discharges and debris of food &c bathes the ends of the bones and the soft tissues surrounding them. This condition is made worse by the constant play of the ends, due to the uncontrolled action of the masticatory muscles and to gravity, leading to abscess, necrosis of the ends and diffuse inflammation of the surrounding soft tissues.



I wish to draw attention to a new form of apparatus which I have devised for fractures of the horizontal portion of the jaw. The following are the chief advantages which may be claimed for it. 1 It can be applied in a few minutes owing to its being universally adaptable. 2 It can be applied over and over again in different cases without alteration or renewal. 3 Its parts, being of plated metal, are easily kept clean. Bandages need not be used with it. It allows of free application of cleansing washes within the mouth. 4 Its application involves no other parts but the lower jaw. It interferes but little with eating and drinking or speaking and sleeping, because of the swivel action of its clamps. The splint consists of a plated metal horseshoe shaped piece, which rests upon the table, and a similar one which is applied below the chin. These are fastened together by two movable clamps. To apply the splint, the mouth plate or metal gutter which is to take the teeth, or jaw if there be no teeth, is lined with ordinary splint gutta-percha. This is then warmed and driven down on the teeth and gums as far as the shallow plate allows. The chin plate, lined with the two layers of wash leather, is put into position and held there. The swivel clamps are then fitted into both plates and, by the thumbscrew to each, can be made to clamp the plates together until the requisite tension is attained. The splint is made by Messrs Arnold & Smith Ltd.

March 22nd 1893

ROBERT C ACKLAND

THE LANCET.

LONDON SATURDAY, APRIL 8, 1893

WE present our readers to-day with the results of an inquiry which in very special circumstances we have instituted into the water supply and drainage systems of the city of Chicago. If we had undertaken the examination of such matters in connexion with any town in the United Kingdom the proceeding would have demanded no apology. If we had prosecuted our inquiries in any plague stricken district abroad there would have been ample precedent, but the present is, it must be confessed, beyond the scope of any similar journalistic enterprise that we are able to quote, and must therefore be justified upon its merits if it is to be justified at all. The reasons that have moved us are very simple and can be stated in a few words. They will, we hope, be found to be cogent enough to prevent any misunderstanding of our motives and even any serious complaint as to the course that we have pursued.

It is perfectly well known both here and in America that the condition of the Chicago River and the state of the Chicago water supply have been matter of much adverse criticism for some years past, and have given occasion not only for discussion to critics but also from time to time for anxiety to the city authorities. A member of our staff, travelling last autumn in the United States, visited Chicago, and heard both there and elsewhere much discussion and no little censure of the sanitation of the city. Struck with the gravity of the situation which would arise if the thousands of visitors to the World's Fair should find themselves restricted to an unwholesome water supply, in a year which is only too likely to witness a recrudescence of the cholera outbreak of 1892, he prosecuted such inquiries as a brief opportunity enabled him to make upon the spot, and took advantage of a private introduction to secure the services of an agent resident in the city who could follow up his inquiries if it were desired to pursue the inquiry further after his own return to this country. He was thus, when he arrived at home, in a position to report to us not only the current rumour as to the dangers lurking in the Chicago River and Lake Michigan, but also to give from authoritative sources an outline sketch of the systems of drainage and water supply which are in fuller detail laid before our readers to-day, and thus to show that the talk of the streets had at least that colour of probability which is afforded by indisputable theoretical shortcomings in the design of the city sewers and the city water works. There was thus presented to us as the Editors of THE LANCET a duty which we were bound to undertake. So long as the sanitation of Chicago was a matter of purely domestic concern to the Chicago people, it was beyond our province, but when it had plainly become a matter of possibly life and death significance to thousands of our fellow countrymen, who are proposing to accept the invitation of the American people and visit Chicago during the present year, we felt that the time had arrived, not for searching out precedents, but for making a new departure

and setting at rest the disquieting questions that had been so pressingly forced upon our notice. We accordingly commissioned the gentleman who had made the preliminary inquiries to complete the task which he had undertaken, and charged him to spare neither trouble nor expense to make the inquiry thorough and to obtain such information as would enable us and our chemical advisers to submit to our readers a complete and trustworthy account of the matters brought into question and such advice as the circumstances of the case might demand.

So much it has seemed necessary to say upon the threshold of the present discussion, not only in our own justification but also by way of explaining and defining the limits which we have imposed upon ourselves in dealing with the questions raised. The matters treated of are matters of capital importance to the people of Chicago, and there is much which, if we were free to treat of them under that point of view, it would be fitting and even necessary to say but which has in the existing circumstances been left unsaid. Our object has been the practical one of ascertaining as far as possible what risks, if any, are involved in the visit of our fellow countrymen to Chicago and of contributing to the success of the Exhibition by such counsels as may enable visitors and their entertainers alike to be upon their guard against such dangers as may be avoided or minimised by vigilance and well directed observance of the laws of health. It will be found upon reference to the report of our Commissioners that there are some points, and especially the unscientific use of ice in cooling water, to which the attention of the public in Chicago needs to be most carefully and seriously directed. These will, we hope, receive the consideration to which they are entitled on the part of all concerned. But it is also pleasant and not at all surprising to find that defects have been magnified and faults exaggerated by ill informed rumour, and that it may reasonably be hoped that the great enterprise of the International Exhibition will be carried through without any such untoward concomitant as an outbreak of epidemic disease. That it may be so is the sincere wish of all parties on both sides of the Atlantic. We are the better able to express the sentiment because we can indulge the hope that our well intended criticisms may not be without some effect in helping to secure this great result.

THE experiment in "the life of a free puncture," initiated many years ago by Leicester is being put to the test. The particular freedom in question is the freedom by which suffer from small pox. The experiment is interesting to the public, but it is not so highly so as some of the sanitary advisers are apt to think, save to the people of Leicester themselves. Still it has a certain human interest, and deserves to be watched with attention by all intelligent students of human nature, and especially by students of human folly. Two contributions to the study of great value have appeared lately in our columns: one, a letter from Dr PRIESTLEY,¹ the medical officer of health for Leicester itself, the other² a paper entitled "A Critical Examination of the so-called 'Leicester System' of Isolation and Quarantine," by Mr A. T. BREMNER, L.R.C.P. Edin., member of the Leicester Fever Hospital Com-

¹ THE LANCET March 18th, 1893.

² THE LANCET March 25th, 1893.

mttee Two gentlemen more entitled to speak with authority and information on the subject could scarcely be found, and we are glad to have been the medium of conveying the important information they have to give and the light they have to throw on the "marvellous success which for the past twenty years has attended the efforts of the sanitary authorities in stamping out small pox without recourse to vaccination." These words were used by a member of the Leicester Town Council as lately as November last, and they are open to the criticism of being at least incomplete and hardly candid. The writer was in the position then to know, what we long since pointed out, that so far as the protection of Leicester was concerned it depended chiefly, as the protection of every town must do, on vaccination. As far back as June, 1886, we ascertained by careful investigation on the spot that whenever a case of small pox occurred and was notified in Leicester, it was taken charge of by revaccinated persons and that all the persons exposed to its influence in the house in which it occurred were not only isolated but were revaccinated. This has been the system of the medical officers of health of Leicester before and since then, and yet up to November last the members of the Sanitary Committee and others have not hesitated to represent that they protected Leicester "without recourse to vaccination." For years past this delusion has had a certain plausibility and acceptance throughout the country. Vaccination has been ignored in the Leicester reports and sanitation has been all in all. Not in Leicester only, but in the country generally, small pox has been in abeyance. In London and in the twenty eight large towns the record has been—no death from small pox and scarcely even a case of the disease. It was easy in such circumstances to protect Leicester or any other place with a cordon of vaccinated persons to deal with the stray cases that occurred and were immediately notified. Everyone that knew the nature of small pox epidemics foresaw that, though this "system" might have a show of success whilst the disease was in abeyance, it would break down as soon as it began to reassert itself, and, as in "the life of a free people," they began to object to isolation as well as to "quarantine." "Quarantine," says Mr BREMNER,³ "being a voluntary act, part of the life of a free people, we met in October with the first refusal of the case of a person who absolutely declined to enter hospital, quarantine, and as firmly declined to be revaccinated. A person fell ill with the disease in due course and was admitted to hospital." Mr BREMNER adds "It is incorrect to say that quarantine is carried out without recourse to vaccination and revaccination. True vaccination is not put into practice as it ought to be." It might have been hoped that when the sanitary authorities of a town had the courage to defy the experience and the united wisdom of the profession in the matter of vaccination they would at any rate be without fault in the matter of accommodation for isolation. Mr BREMNER's description of the building erected for small pox cases, then used as a scarlet fever hospital, with the reserve of a block for small pox patients ten yards from the western extremity of the main building, reads like a device for securing that the children affected with scarlet fever—unvaccinated children for the most part,

be it remembered—shall have small pox as well. This, at any rate, was the natural sequence of events. The following passage from Mr BREMNER's paper vividly records this fact as well as the advantage of vaccination.

"On Oct 31st, 1892, the hospital was more than full, containing 158 patients suffering from scarlet fever. Of this number eighty four were vaccinated, including those vaccinated by the medical officer of health. Of these eighty four vaccinated children not one contracted small pox. The remaining seventy four were unvaccinated, thirteen of these contracted small pox and four died. Small pox having broken out amongst these children, it became necessary to send the remaining scarlet fever cases to their own homes, where they were kept under observation and some of them were readmitted to the hospital suffering from small pox."

All this has occurred under the management of a sanitary authority who have been lecturing the country on isolation and sanitation with an air of superior knowledge and have been feeding an agitation which is threatening to relax the severity of the Vaccination Acts. It is idle to think that any system of notification or isolation can of itself protect unvaccinated persons from small pox. Both isolation and notification are interferences with "the life of a free people." Both will be evaded, especially under Leicester standards of the respect due to the laws of the land. Leicester itself is affording illustrations and is paying the penalty of lawlessness. Its sanitary authorities have set the example of disrespect to public law whilst thinking that laws of their own would be successful. We learn that already 140 cases of small pox in Leicester have occurred and 10 deaths (2 adults and 8 children unvaccinated). Of the 140 cases 83 were adults, 77 being vaccinated and 6 unvaccinated, 57 were children, 7 being vaccinated and 50 unvaccinated. These statistics should be read in connexion with the facts given in the letter of the medical officer of health of Leicester in THE LANCET of March 18th, showing the risk to the unrevaccinated members of the staff of the hospital. "Of these, 28 in number, 22 were protected either by a previous attack of small pox or by revaccination (including 8 whom I revaccinated), whilst the remaining 6 had been vaccinated in childhood, and so were not 'sufficiently' protected. Of these 6 inefficiently protected officials, all of whom refused revaccination which I offered them, 4 have since contracted small pox and 1 has died, so that 2 only of the staff now remain inefficiently protected and it will be interesting to note their future histories. The 4 recent additions to our hospital staff have now been revaccinated. One nurse, said to have been revaccinated ten years ago, has suffered from a doubtful and abortive attack of small pox." Here we leave this subject. Few can doubt that a wave of epidemic small pox is moving towards us that will endanger all unvaccinated children and all unrevaccinated adults and adolescents. The boast of Leicester anti vaccinationists has not increased their security, and the efficiency of revaccination is demonstrated by their own medical officer of health. If it so happens that the relaxation of the Vaccination Acts should be deferred perhaps even Leicester opinion may undergo a change, but this is a sanguine view.

THE first impression which a cursory perusal of the voluminous and intricate Bill that has been introduced by the Government for the purpose of completing what may be called the municipalisation of rural districts commenced by

the preliminary Act of 1888, gives even to a reader who is tolerably familiar with the matters with which it deals is that it is extremely difficult for anyone who does not possess such an acquaintance with what lawyers call the "purview" of the Bill to form any adequate idea of what its practical effect is likely to be. The leading feature of the Bill clearly is intended to be the parish council, and it is to this element that the hopes and criticisms alike of those who may be interested in it will be mainly directed. The creation and functions of district councils, consisting as they do in a great part of a mere transference to the new bodies of the organisation and powers of rural sanitary authorities and highway boards, will excite but little interest, as they involve only questions of administrative detail, but it is around the parish councils that the fray in committee on the Bill may be expected to gather. They are its *raison d'être*, and by the general outcome of opinion as to its provisions for their creation and powers it must stand or fall.

Upon the Bill as a general administrative measure for the completion of the scheme of local government initiated by the Act of 1888 this is not the place to offer any criticisms. Abundant artillery of this calibre will be directed against it as it passes the ordeal of committee by the numerous members of both Houses of Parliament, who are well able by their experience in the direction of local affairs to detect its weak points and to remedy its defects. Our object is to consider it from a purely sanitary point of view and in the light which a somewhat prolonged acquaintance with sanitary administration in rural districts may afford for estimating the effects which, if passed, it is likely to have upon sanitary progress in these localities.

The first remark which, in looking at the Bill from this point of view, it occurs to us to make is that, as a direct contribution to sanitary legislation, the Bill might just as well have not been brought in at all. From the title of the Bill to the end of the last schedule there is not one single word that adds in any degree to the powers of dealing with preventable disease, of abolishing its causes, or of remedying those innumerable defects in existing sanitary legislation by which the action of local authorities and their officials is hampered in contending with these evils. Unlike the Act of 1888, which, amidst a wilderness of non-sanitary provisions, contained a clause enabling county councils to appoint county medical officers of health—a power of which by the way, they have in but few cases as yet availed themselves—this Bill is throughout merely a scheme for organising, and in some degree for reorganising local administration. If therefore, the Government have any idea of claiming credit for it as a sanitary measure, it is just as well that, before commencing its discussion, they should be candidly invited, in the well known words of SYDNEY SMITH, to "clear their minds of cant."

Having said this much, we are the more willing to bear testimony to the important effect which the Bill may possibly have, if it become law, in indirectly promoting an interest in intelligent sanitary administration and in this way contributing to raise the standard of health in rural districts. Although we by no means share the optimistic views which are entertained by some of those who

have been helping of late to voice public opinion in favour of the need for parish councils, and as to the great things which are to be expected from them, we readily admit that the organisation of the parish, as the unit of sanitary as well as of all other local administration, is the indispensable foundation of any rational system of local self-government. It is only by giving local opinion in a parish the opportunity of what may be colloquially called "licking itself into shape" by means of a recognised organisation, invested with distinct powers and acting on a well defined programme, that the motor energy can be acquired which is essential in order to effect many sanitary improvements. It was urged as a justification of the Education Act that having enfranchised the working man it was next necessary to educate him, an argument, it must be admitted, which savours somewhat of the "cart before the horse" form of logic. So of the agricultural labourer as he is now politically the master of the situation, it is only right that he should have every opportunity of acquainting himself, not only with the objects and advantages of sanitary administration, but with the difficulties which attend it.

To take for instance an illustration from the most familiar of all forms of sanitary improvements—namely, drainage. Sub-section E of Clause 8 of the Bill empowers a parish council "to deal with any pond, pool, open ditch, drain or place containing or used for the collection of any drainage, filth, standing water or matter likely to be prejudicial to health." Now, parenthetically, it may be remarked that the word "deal" which is here used is not deficient in that sort of ambiguity by which the framers of Acts of Parliament so often seek to avoid committing themselves to intelligible precision. How a body which is limited to an expenditure not exceeding one penny in the pound for the financial year is to "deal" in any sense except a perfunctory one with nuisances of this description, which frequently can only be dealt with, in the sense of abating them, by considerable outlay, it is not easy to see. But let that pass, and let us assume that the way in which the parish council would deal with such a matter would be by presenting a scheme for its abatement to the district council. Now here is exactly the point where the educational influence of the parish council will soon be felt. The primary idea of most people, whether parish councillors or not, in regard to nuisances of this description is to pass them on to their neighbours as it were, and as may be by laying a drain to carry them off, with a punctilious indifference as to who is to pay for the drain and as the nuisance becomes of the "nuisance" when, as it is called, non by itself. Tomlinson it gets to the other end of the drain. Then the parish councillor will now have to make himself more fully acquainted than he has hitherto in his unincorporate capacity had an opportunity of doing, with the difficulties involved in dealing with drainage effluents and with the virtues of a system of dry conservancy carried on upon his own premises.

That the opportunity of thus educating himself in these and other practical measures connected with his own physical and social improvement cannot fail in time to be attended with beneficial results to parish councillors and their constituents alike, a man must be very blind or very bigoted to deny. But that the parish council is going to effect any very sudden amelioration of rural life it may be permitted to those of us who know something practically

about rural parishes to doubt. For what, after all, will the Parochial Council of the Bill of 1893 effect which could not be compassed by the Parochial Committee of the Public Health Act of 1872? That Act gave a rural sanitary authority power to delegate the whole of its powers, if it felt disposed to do so, for any parish in its district, to a committee of ratepayers living in the parish selected by itself. No power could be wider, no guarantee for getting an effective body together could be more complete, inasmuch as it was possible for the authority to put any person upon the committee who was likely to take an interest in its work. And what have been the results of the exercise of that power? So far as we can judge they have been very small. Here and there a parish committee has done good work and has fully justified the advice which called it into existence, but in the majority of cases it has more or less rapidly become effete, the victim either of intestine dissensions or of a sort of creeping paralysis of all its energies. It may, perhaps, be contended by the advocates of the present Bill that parochial committees have failed where parish councils will succeed, because they have, as a rule, ostentatiously abstained from seeking the coöperation of the very class whom the latter bodies are expected to attract. But here we are trenching upon the ground of very hypothetical considerations with which we need not now further deal.

There are numerous problems of this character, as well as of a more practical kind, connected with matters of organisation and administration, with which the Bill bristles, and which will doubtless be thoroughly threshed out when it gets into Committee. It is inevitable that the draughtsmanship of such a measure should, notwithstanding the great experience which must be brought to bear on it by the officials of the Local Government Board, be attended with obscurities, even to those who are pretty familiar with the subjects with which it deals. But, in spite of all the criticisms to which it may be subjected—and they will certainly be both numerous and weighty—it must be admitted to be a valuable contribution to the edifice of a national system of local sanitary and general administration, the foundation stone of which was so ably laid by Mr STANSFELD in the Public Health Act of 1872.

In conclusion, it may perhaps be well to say, for the information of our readers who are personally interested in the subject of health in sanitary work, that there is not a single parish in which directly affects vested interests, except in relation to those portions of sanitary districts created in two or more counties. There can be no doubt that the creation of parish councils will tend materially to increase the duties of county councils, and it is difficult to see how these bodies are to grapple with much of the work which will be thus thrust upon them without the assistance of a skilled medical officer of health. Those bodies who have not yet availed themselves of the power given them for the purpose by the Local Government Act of 1888 will therefore have an additional incentive to do so, of which it is to be hoped that, in view of the good results which have attended the county appointments already made, they will not be slow to take advantage.

Annotations.

"Ne quid nimirum"

MEDICAL AID ASSOCIATIONS AND THE GENERAL MEDICAL COUNCIL

At a National Conference of Friendly Societies held at the Foresters' Hall, London, on March 29th, it was resolved to memorialise the General Medical Council of the United Kingdom with regard to the action taken by certain members of the medical profession respecting these societies and the demand that had been made that the governing body of the profession should stigmatise as "professionally infamous" those registered practitioners who had accepted engagements with these associations. Mr Ballan Sted, who moved the resolution, asserted that the success of these institutions had brought upon them a most unjust charge from certain dissatisfied members of the medical profession. The General Medical Council may be trusted to consider with care the representations of the Friendly Societies on this important subject. At a Banbury Friendly Societies Medical Association banquet, presided over by the Mayor, this subject was alluded to in the toast of "The Medical Staff of our Association" by the proposer and by Mr Raye, the medical officer, who responded. Mr Raye called on the General Medical Council to deal with the question of unqualified assistants placed in branch practices at a distance from their principals and left with a book of blank death certificates signed by the principal. Mr Raye should have remembered that the General Medical Council has already dealt with this scandal and has removed the names of several practitioners from the Register for complicity in it. Mr Raye denied that there was increased mortality amongst the patients of the Medical Aid Associations. He made some dignified observations on medical etiquette and expressed his conviction that the General Medical Council would see justice done to such institutions.

THE TREACHEROUS SPRINGTIME

WE have been favoured lately with exceptionally bright and fine weather for the time of year. The month of March, 1893, divested itself entirely of its blustering, Leonine attributes and passed through its allotted period with a lamb-like placidity usually associated in our minds only with its closing days.

"Proud pled April, dressed in all his trim,
Hath put a spirit of youth in every thing."

and the "showery month" so far has not been true to that portion of its traditional reputation. The Easter holidays which have just passed will probably, with general consent, be considered to have been blessed with the most enjoyable weather experienced at this season for many years. Under these circumstances we fear that we may be thought to be pessimistic and unduly jealous of exercising the proverbial right of the Englishman to grumble when we venture to describe the present state of affairs meteorological by the heading of this annotation. In sober truth, however, a few words of warning may be most usefully addressed by our readers to their patients. We are so accustomed to read in poetic language of "gentle spring" and "ethereal mildness" that we are apt to connect the two, and to forget that such a springtime as we are now enjoying is full of pitfalls to the unwary and by no means free from danger to the most careful. The question of clothing, for instance, is a most difficult one. "Cast not a clout till May be out" is an undeniably wise saw as a general rule, but in weather such as the present it is attended by its disadvantages. A day on the river, a game of cricket, a ride on horseback or

on a bicycle, and even the morning walk to business and other forms of usually healthful exercise are apt, under the influence of a powerful spring sun and winter clothing, to result in free perspiration—an unmixed blessing if a change of clothes and a “rub down” are immediately available, but otherwise only too likely to result in danger to health. The sun’s rays, warm as they themselves seem, have not yet had time to warm the earth and so help to temper the chilling effects of a wind which has pretty surely at this period got “a touch of the east” or the north in it, and which, even if “south west,” is of a harsher nature than the gentle zephyrs to be expected later in the season. The invariable result is a prevalence of “bad colds.” We do not wish it to be thought that we advocate the reckless casting off of winter clothing. In that respect the perils of Charybdis would doubtless be greater far than the dangers of Scylla. What we would rather urge is the importance of recognising that a few bright days do not make summer, that we are still exposed to the treacheries of spring, in the lap of which winter lingers and as was recognised by the poet Goldsmith, himself a medical man, even

“Chills the lap of May”

It is wise therefore during the spring not to indulge in forms of exercise which involve anything in the shape of violent muscular effort unless adequate precautions are taken to avoid the results of chill.

PENSIONS FOR THE AGED

THE spirit of our age, whatever its defects, has not been wanting in purposes of benevolence. Examples of this tendency might be multiplied, but one will suffice for our present consideration. We refer to the series of schemes, as various as they are simple in their methods and colossal in their scope and enterprise, by which it has been sought to make provision for the aged poor. The subject has once more and quite recently been discussed in a paper by Dr Frederick Alderson. From this we learn that the writer’s preference is for a system of universal endowment by which the national purse would be taxed for the maintenance of all persons over sixty-five to the extent of 5s. weekly. He contends that so small a gratuity would not obviate prudent thrift but rather stimulate the recipient to its exercise. Filial piety would in like manner be rather encouraged than enfeebled. Non-payment of debts would disqualify the intending pensioner and thus honesty would be promoted in a matter with regard to which every medical practitioner has noted its frequent failure. Reference is likewise made in this paper to several other systems, partly provident, partly charitable, and resembling in their general outlines that above described. As regards approval of the essential principle upon which these are based—that of pity for the honest poor when incapacitated for work by age or illness—we should probably nowhere meet with any serious objection. It is when we come to ways and means that difficulties arise. Lord Halsbury said recently that the aged poor ought to be looked after by somebody, but this only raises a further question, Who is this somebody? Without professing to exhaust in discussion the stored logic of political economists, we seem to recognise, as the first and fittest incarnation of that somebody, the beneficiary himself. Whatever system be adopted, it is clear that the principle of self-help must play a prominent part in the creation of age pensions. In every other grade of life this rule holds good, and why not in that of the honest and prudent, though relatively poor, workman? We can see no reason why a trifling deduction should not be allowed on his weekly earnings and invested by way of premium for the expected pension, as in the case of Government salaries. One advantage connected with such a system would be its encouragement of steady working habits. Where the amount thus contributed did

not suffice for the purpose intended, a first additional charge would naturally come upon relations, and parochial consideration would thus be limited to cases in which misfortune or other exceptional cause necessitated special and discriminating treatment. We should like to see this question of pensions considered from a purely actuarial standpoint. So far it would seem as if the tendency is too purely charitable to be compatible with any rational estimate of the value of money. While sympathising, therefore, with the motive which inspires the various schemes above referred to, we consider as essential to its useful application the full recognition of two fundamental duties—namely, self-help and filial obligation.

STRONG OBSERVATIONS BY A JUDGE IN SUPPORT OF A MEDICAL PLAINTIFF

It is always gratifying to record the success of an action to recover honest and well-earned medical or surgical charges and the observations of an enlightened judge. This is our pleasure to-day in noticing the case of Mr Innes Griffin, medical officer of health for Banbury, who sued Mr James Humphries for the sum of £77s. for services to his son involving fourteen visits, trephining for a cerebral abscess in connexion with ear disease and two whole night attendances. At the last moment a defence was started of improper treatment amounting to slow diagnosis and to gross negligence except with regard to the operation, which it was admitted was well and judiciously done. The judge offered to postpone the case for further professional evidence to rebut the ungenerous theory of the defence. But the plaintiff’s counsel said the case was quite a clear one and elected to go on. The judge entirely approved the action of Mr Griffin and “assured him that he left that court with the same high and honourable professional reputation which he had when he entered it.” Asked about costs he said, “Certainly, costs on the higher scale and execution to-morrow.”

THE OUTRAGE ON KING HUMBERT

UNDER date Rome, April 1st, an Italian correspondent writes “Twice within his beneficent reign of fifteen years has the King of Italy been made the subject of violence or outrage on the public highway. On Nov. 17th, 1878, when driving in state through the Neapolitan streets, his life was attempted by a fanatic named Giovanni Passanante. In the same carriage with the King were his consort, Queen Margherita, the Prince of Naples (a mere boy) and the then Premier, Signor Benedetto Caroli, and, whether by mistake or by accident, the lethal weapon missed His Majesty and inflicted a severe wound on his minister, whose femoral artery it grazed, but providentially did not puncture or incise. Passanante, after his arrest, was made the subject of an elaborate medico-psychological examination by the well-known experts, Professors Tamburini, Buonomo, Tommasi and Verga, and their most interesting report given *in extenso* in THE LANCET (March 1st, 1879 pp. 321-2), which excluding all symptoms of mental neurosis in the would-be assassin found him a moral weakling, prone to fanaticism and the convenient tool of sinister agents in the background. He is now I believe, an inmate of the State Prison in the island of Elba, where, in solitary confinement, he has lapsed into complete dementia. Much less serious, though to the psychologist perhaps, more interesting, was the outrage aimed at His Majesty on Saturday the 25th ult. in the Villa Borghese. The king was driving that afternoon with his field adjutant when, near the first fountain, there was thrown at him a paper packet charged with refuse. The assailant was at once arrested, and on examination at the Questura turned out to be one Luigi Berardi, who represented himself as a believer in none but Jesus Christ and His vicar the Pope and a sworn enemy of the Italian Kingdom. Dr Pietro Malpieri

about rural parishes to doubt. For what, after all, will the Parochial Council of the Bill of 1893 effect which could not be compassed by the Parochial Committee of the Public Health Act of 1872? That Act gave a rural sanitary authority power to delegate the whole of its powers, if it felt disposed to do so, for any parish in its district, to a committee of ratepayers living in the parish selected by itself. No power could be wider, no guarantee for getting an effective body together could be more complete, inasmuch as it was possible for the authority to put any person upon the committee who was likely to take an interest in its work. And what have been the results of the exercise of that power? So far as we can judge they have been very small. Here and there a parish committee has done good work and has fully justified the advice which called it into existence, but in the majority of cases it has more or less rapidly become effete, the victim either of intestine dissensions or of a sort of creeping paralysis of all its energies. It may, perhaps, be contended by the advocates of the present Bill that parochial committees have failed where parish councils will succeed, because they have, as a rule, ostentatiously abstained from seeking the coöperation of the very class whom the latter bodies are expected to attract. But here we are trenching upon the ground of very hypothetical considerations with which we need not now further deal.

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At a National Conference of Friendly Societies held at the Foresters' Hall, London, on March 29th, it was resolved to memorialise the General Medical Council of the United Kingdom with regard to the action taken by certain members of the medical profession respecting these societies and the demand that had been made that the governing body of the profession should stigmatise as "professionally infamous" those registered practitioners who had accepted engagements with these associations. Mr Ballan Stead, who moved the resolution, asserted that the success of these institutions had brought upon them a most unjust charge from certain dissatisfied members of the medical profession. The General Medical Council may be trusted to consider with care the representations of the Friendly Societies on this important subject. At a Banbury Friendly Societies Medical Association banquet, presided over by the Mayor, this subject was alluded to in the toast of "The Medical Staff of our Association" by the proposer and by Mr Raye, the medical officer, who responded. Mr Raye called on the General Medical Council to deal with the question of unqualified assistants placed in branch practices at a distance from their principals and left with a book of blank death certificates signed by the principal. Mr Raye should have remembered that the General Medical Council has already dealt with this scandal and has removed the names of several practitioners from the Register for complicity in it. Mr Raye denied that there was increased mortality amongst the patients of the Medical Aid Associations. He made some dignified observations on medical etiquette and expressed his conviction that the General Medical Council would see justice done to such institutions.

THE TREACHEROUS SPRINGTIME

WE have been favoured lately with exceptionally bright and fine weather for the time of year. The month of March, 1893, divested itself entirely of its blustering, leonine attributes and passed through its allotted period with a lamb-like placidity usually associated in our minds only with its closing days.

'Proud pled April, dressed in all his trim,
Hath put a spirit of youth in every thing

and the "showery month" so far has not been true to that portion of its traditional reputation. The Easter holidays which have just passed will probably, with general consent, be considered to have been blessed with the most enjoyable weather experienced at this season for many years. Under these circumstances we fear that we may be thought to be pessimistic and unduly jealous of exercising the proverbial right of the Englishman to grumble when we venture to describe the present state of affairs meteorological by the heading of this annotation. In sober truth, however, a few words of warning may be most usefully addressed by our readers to their patients. We are so accustomed to read in poetic language of "gentle spring" and "ethereal mildness" that we are apt to connect the two, and to forget that such a springtime as we are now enjoying is full of pitfalls to the unwary and by no means free from danger to the most careful. The question of clothing, for instance, is a most difficult one. "Cast not a clout till May be out" is an undeniably wise saw as a general rule, but in weather such as the present it is attended by its disadvantages. A day on the river, a game of cricket, a ride on horseback or

occasionally the successful worker must halt and return disqualified. We do not doubt that some such late rejections have been fully justified by the presence of actual disease however caused. At the same time it must be admitted that cases have occurred in which conditions of imperfect health, by no means important in themselves, have become so developed or aggravated or mere overstrains as to convey the impression of serious disability an impression which a few weeks or months of leisure suffice to dissipate. Here surely there is room for amendment of existing custom, and the appropriate remedy is not far to seek. No possible objection could be raised against such an alteration of established rule as would defer the date of this second medical inspection to a period considerably later than that of the ordinary examination of candidates. We should strongly recommend the adoption of this practice wherever it is not already in use. Any more speedy method, whatever its apparent advantages can hardly do justice either to the skill of the examiner or to the legitimate prospects or overstrained but still physically sound competitors.

DENTAL ADVERTISING

THE question how to deal with advertising has been a very difficult problem to solve in all professions and just now is largely agitating the dental world. The general opinion held by respectable dental practitioners and by the community at large is of course that it is most derogatory to the profession as a body and that those who practice advertising are 'quacks.' Mr. Blandy proposes that a petition signed by registered dentists shall be presented to the General Medical Council, praying them to make it a matter of 'infamous and disgraceful conduct,' which means erasure from the Register. 'If he conducts his practice by means of the exhibition of dental appliances or apparatus in an open shop or in a window or in a show-case exposed to public inspection, or if he seeks to attract a patron by means of public advertisements or circulars describing modes of practice, or patented or secret processes or by the publication of a scale of professional charges.' With regard to the expediency of the movement it seems to us very doubtful whether the General Medical Council has any power to move in the matter, and further, even if there is, whether the time is ripe to push it. It must not be forgotten that a large number of the registered dentists are still unqualified men and so are not under the control of any licensing faculty, but we think that it ought to be very strongly urged that all corporations granting a licence should insist upon a guarantee by the recipient of a declaration not to advertise. But the whole matter would be much more satisfactory if dental surgeons would take the trouble to become not merely affiliated with, but actual members of, the medical profession.

"HUMAN REMAINS IN THE CITY"

UNDER this heading the *City Press* of March 25th publishes the judgment of Dr. Tristram, Q.C. Chancellor of the Diocese of London, given at the Consistory Court of St. Paul's Cathedral on March 2nd, upon the application of the rector and churchwardens of St. Michael Bassishaw. This was to enable them to remove human remains from underneath the church. The faculty was granted and the remains will be removed to the Great Northern Cemetery care being taken to have the fact of the removal notified on a stone in the centre of the ground to be occupied by the remains and also in the vestry of the church. The Chancellor was careful to explain at some length that the order of the Home Secretary was not sufficient to ensure the removal of bodies from any church or consecrated burial ground without a faculty. No one appreciates better than we do the excellent adage *res auctor ultra crepidam*, and we have no wish to interfere with the duties of chancellors or any

other ecclesiastical dignitaries, but in all that relates to the public health we have a right to speak with authority, and as Dr. Tristram himself referred to the case of St. Botolph's Church, Aldgate, we may remind him that we felt bound at the time to enter our protest against the faculty which he granted to reinter human remains in the vaults under that church, a position which was supported by the sanitary authorities of the city and by the Home Secretary. Moreover, these remains were removed to a suburban cemetery, notwithstanding an attempt on the part of the church authorities to override the orders of the Home Secretary. The fact is that these faculties must be regarded as pure formalities. When the sanitary authorities have decided that for reasons of health human remains must be removed the faculty must perforce be issued as a matter of course and as a matter of form. Should a faculty be asked for to inter any bodies beneath a church it should be refused since no ecclesiastical authority can be justified in doing that which is dangerous to the public health. What has recently occurred at St. Mary's Woolnoth, St. Michael's Bassishaw and other churches should convince everyone of the danger of burying any human body beneath a consecrated building used for worship. Sooner or later mischief will result, and the only effectual remedy is to remove the body to some suburban cemetery.

PREVENTIVE MEDICINE AT OXFORD

OUR oldest University has at last awakened to the necessity of taking part in the progress of preventive medicine, and of rendering her degree in Public Health less exclusively restricted. Following the wake of Cambridge, this is now proposed to be open to all registered medical practitioners. A statute embodying this important change will be promulgated before Congregation on May 2nd next. There is to be an annual examination by four examiners presided over by the Pegasus Professor of Medicine. The subjects will comprise (1) General Hygiene, (2) General Pathology, with special relation to infectious diseases, (3) Laws relating to Public Health, (4) Sanitary Engineering, (5) Vital Statistics. Every candidate must have been registered for a twelve-month, must have spent six months working in a Public Health Laboratory and another six months as assistant to a health officer of a town or county of at least 50,000 inhabitants. We trust that the statute will meet with no opposition, and that the Oxford Diploma in Public Health may be eagerly sought after and confer the same distinction as the other degrees of this University.

WELLINGTON COLLEGE

THE appointment of Mr. Pollock, assistant classical master at Marlborough, to the headmastership at Wellington College in succession to Mr. Wickham, who will vacate the position at the end of the forthcoming term is an occasion of which the governors of Wellington College have availed themselves to announce to the public and the parents of boys, present and prospective, the sanitary improvements which they have endeavoured to effect, regardless of cost, under the direction of Mr. Rogers Field, the well-known sanitary engineer. Nine years ago we opened the question of the insanitary condition of Wellington College. In the correspondence that then took place it appeared that the governors' attention had been called to the subject some years previously by the medical officer of the College, but without avail. Differences of opinion existed between the governors and Mr. Wickham, the headmaster on the one hand, and Mr. Barford, the medical officer on the other, not only as regarded the insanitary surroundings of the College, but also as to the local origin of the diseases which prevailed amongst, and proved fatal to some of the boys. We opened our columns freely in the interest of the

went minutely into his case and elicited facts that left no doubt that he was a madman of the type known to Italian classification as *megalomania religiosa*, which includes the hallucination of 'persecution.' There was a family history of neurosis, physical and mental. His father died an epileptic. His sister has been an inmate of a lunatic asylum for six years. At the age of nineteen, in an explosion of fury at an employer, he bit the latter so severely as to cause his death in hospital a few days after. For this he was condemned to seven years' solitary confinement at Orvieto. On his release in 1833, he was again imprisoned for 'cutting and wounding,' and after serving a short term of incarceration, he emigrated to New York, where he seems to have been an inmate of the lunatic wards of the public prison. Returning to Italy at the end of last year he led a 'persecuted' life in Rome, which culminated in the outrage on the king on the 25th ult. Since his arrest his religious exaltation has assumed the form of self-imposed abstinence from food, whilst he declares himself superior to the 'Vicar of Christ.' In all this we have a striking example of the looseness with which the criminal law is administered in the Italian peninsula, and of the levity with which dangerous lunatics, liable to epileptoid explosions, are allowed to be at large. Had Berardi been more vigilantly looked after during his first imprisonment he would never have been allowed to mingle freely in sane society, and the violence of which from time to time he was the perpetrator would have expended itself harmlessly within his place of confinement. In other countries the risk of letting epileptics engage in service, public or domestic, has of late been but too painfully realised, but in Italy its exemplification is so frequent as to call for State intervention. She holds an evil pre-eminence in 'impulsive homicide,' the authors of which, young and old, but especially young, fill her *bagno* to overflowing. Again, what in England would be called 'suicide while in a state of insanity,' is amongst Italians looked upon as quite a reasonable act if weariness of life or '*dissesti finanziari*' (money difficulties) or disappointment in love or '*gelosia*' (jealousy) are strong enough in the victim. But English jurisprudence is sounder than Italian in these cases, and, as a Milanese contemporary shows us, the 'epidemic of suicide,' as it calls it, which has saddened the columns of Italian journals for years past, ought to be probed to its root and traced to a mental neurosis as marked as it is wide spread. The subject, I am happy to note, will come before the International Medical Congress in authoritative guise next September, by which time we are but too likely to have many more cases like Berardi's of 'dangerous epileptics at large,' or of that impulsive self-murder which a more rigid surveillance of neurotic youth might have prevented betimes."

"EVIDENCE OF THE CAUSE OF DEATH"

SUCH is the title of a pamphlet by Mr E. L. Hussey, coroner for the city of Oxford, consisting of twenty-two pages. It is addressed to a "Brother Coroner," as would seem from the context, partly as an expression of opinion of Mr Hussey's general views of coroners' law, and partly as a homely advice to the addressee. The work does not readily lend itself to regular criticism, seeing that it is rather a collection of paragraphs of mixed nature than a logical examination of propositions. Reading between the lines, however, we are able to gather that the writer does not stand on common ground with the majority of medical practitioners. The argument seems to be directed against the calling of medical witnesses and the ordering of post-mortem examinations in all cases where the exact cause of death is equivocal. In more than one illustrative case the writer, as it appears to us, assumes an attitude of antagonism to himself. This is notably so where, on page 21, he cites the facts as deposed to at an

inquest on a man who locked himself up in a room, was heard to groan, and on the door being broken open was discovered dead. A friend of the deceased and a medical man who accompanied him found in the bedroom a glass containing fluid "which seemed to them beyond doubt to be a solution of strychnia." The practitioner who attended the deceased was not called. It does not appear that an analysis of the contents of the glass was made. There was no post-mortem examination of the body. We ask, then, was the theory of suicidal strychnia poisoning, or strychnia poisoning at all, as embodied in the verdict of the jury, warranted by the testimony? And yet this case is given as a type of legal, medical and common sense procedure. Whilst giving the writer all credit for the best intentions and admitting that neither on logical nor scientific grounds is it necessary to hold an inquest in every case of death under an anæsthetic, we still maintain that such a course is not only desirable but necessary to exculpate the anæsthetist and the surgeon and to satisfy the patient's friends. It is scarcely necessary to examine in detail the writer's views of chemical nomenclature, suffice it to say that they are not quite in accord with those adopted in standard works. A long list of popular expressions relative to causes, consequences and symptoms of disease is given. Mr Hussey considers these terms "sufficient" and intelligible for the cause of death. Here we join issue, for in our opinion they are not all of them intelligible and consequently not "sufficient." On previous occasions we have insisted that whenever the cause of death is doubtful a post-mortem examination should be made, and, if necessary, a chemical analysis, and our opinion is not shaken after perusal of Mr Hussey's pamphlet. Of course, there are cases of death from violence where the demand for medical evidence would be simply vexatious.

THE MEDICAL ELEMENT IN COMPETITIVE EXAMINATIONS

SINCE the time of its institution the competitive examination has entailed upon all concerned with it almost as much anxiety as benefit. As a gauge of amassed information it is probably unrivalled, as a test of latent energy in the form of knowledge its value is at least open to question. After all, however, it must be allowed that no alternative system has yet been suggested as adapted to fulfil with equal efficiency the purpose of selection which called it into being. We must, therefore, it would seem, still bear with its drawbacks for the sake of its advantages. The great vice associated with the system is of course the necessity of cram which it involves. Out of this arise most, if not all, of its other defects. For the present we need not deal with the question in its literary aspect. There are other and physical considerations which are sometimes of even greater importance to the individual student competitor. It is in obedience to no mere professional fancy that medical inspection forms an important part of such examinations, since it is clear that health and character have at least as much to do with the actual utility of passed candidates as education itself. Health, indeed, is of these the more critical matter in this that it cannot be regulated by mere will or by considerations of expediency. It can only be guaranteed by personal examination and the circumstances under which this is conducted are of the first importance. It is a wise rule which provides that a candidate shall, before entering himself for the contest in mental culture, present a certificate of sound bodily health. He is thus afforded some sort of guarantee that his studious labour, if allowed at this stage, will not end in disappointment on the score of physical conditions. Alas for human hope, illness and accidents do not respect the set stages of competitions and therefore a still later barrier of medical inspection is indispensable. Here-

energetic efforts of the medical officer, Dr Priestley, seconded by his experienced chief sanitary inspector, have done much to minimise the risks of infection from households, although their members could not be actually confined in one place. We are glad to observe that Mr Clifton, the chairman of the special committee—the premature publication of whose report was latterly complained of by Mr Windley—fully recognises that some modification must be made in the manner in which the principles of prevention of dissemination of small pox are to be carried out. Leicester, having chosen to abandon vaccination, is bound to render its provisions for isolation as perfect as possible, and although it may suit the purpose of some of its authorities to attribute the present visitation to an unavoidable extension of the disease in a building wholly unsuited for the purpose, they have much to answer for in subjecting unprotected children to the chances of infection which the most careful precautions can in that case hardly obviate.

POISONING BY TINNED BEEF

A FAMILY residing at Chelmsford partook of some American corned beef for breakfast on the morning of Wednesday, March 27th. The meat was observed to be slightly moist on the surface and did not drop out of the tin readily. It is also stated that the meat had a "spicy" flavour as of thyme. The mother, who is an elderly lady, about an hour and a half after breakfast complained of feeling giddy, and shortly afterwards persistent vomiting supervened followed by cramps, spasm and diarrhoea. The father, son, daughter and a maid servant were attacked shortly after, and for a time the life of the son was despaired of. All have now recovered. Unfortunately the remaining meat was destroyed. This, of course, is to be regretted, as in all such cases the unconsumed portion should be reserved for chemical and bacteriological examination. When examined a few days later the under surface of the tin was found to be corroded considerably more than was the case with other tins which had been kept a much longer time. In the scrapings of fat from the side of the tin both lead and tin were detected by Dr Thresh. The symptoms, however, were undoubtedly those of ptomaine poisoning.

SOME LESSONS OF SUICIDE

Few of the misfortunes which can overtake a man are able so to overwhelm him that they do not leave open some avenue of hope, and the more especially if they are not attributable to conscious error on his part. The mind so conquered by depression that it cannot see this outlet is therefore surely unhealthy. It may doubtless be free from other ordinary signs of persistent and confirmed insanity, but it illustrates, nevertheless, a condition of weakness which in the grosser bodily fabric would pass for disease. Its disorder is not less a malady because it is often transient and is not related to known organic changes. In it we recognise the close connexion between rational and moral qualities, and it is the failure of both, but especially the latter to influence their unfortunate possessor which is so grimly taught by suicide. Despair is the true exciting cause of such calamities, and thus we take it is nothing else than moral short sight. We are all of us liable to suffer from it, and, though for the most part we know it only as a temporary disturbance of function, each of us can attest its prostrating influence and the strength of its resistance to the curative powers of reason and of faith. The case of a lad who lately poisoned himself with chloral hydrate because he failed to pass the entrance examination at the Durham Medical School was peculiar only in its secondary details. Naturally delicate, oversensitive and over anxious, he was stunned by his disappointment—and he died of this disease. Who has not known, like him, the

infinite discomfort of a seemingly unbearable present and impossible future. Yet there is no truth more certain than that which tells us that everything comes to the patient hope which knows how to wait. It is in the possession of this divinely planted quality that we have the surest remedy for all those miseries of distrust which culminate and are by some believed to end with self-destruction. There is a subsidiary question of some interest connected with the case above mentioned. How came the unhappy boy to have about him a fatal dose of chloral? There was no evidence of the medicinal administration of this drug. We are, therefore obliged to conclude that it was, as it easily might be, purchased of some neighbouring druggist, and the fact of its prompt and purposeful misuse affords a fresh reminder of the far from adequate restriction placed by Government upon the sale of poisonous remedies.

INFLUENCE OF THE SYMPATHETIC ON THE EYE

HEESE has contributed to *Pflüger's Archiv* an important paper dealing with this interesting question, and an abstract of it appears in the last number of the *Neurologisches Centralblatt*. The question of the existence of a special dilator muscle for the pupil has long been a vexed one. The effect of the sympathetic in causing dilatation has been ascribed to contraction of the iris vessels by some, and to an inhibitory influence on the sphincter of the iris by others. Heese claims, by experiments on the cat, to have demonstrated the existence of a special dilator of the pupil. He has also investigated the mechanism of protrusion or retraction of the eyeball. These, he says, depend, firstly, on the condition of contraction of the bloodvessels of the orbit, and, secondly, on the contraction of the orbital muscle. Both are innervated from the cervical sympathetic. The influence of this is strongest on the orbital muscle, so that stimulation of the sympathetic causes protrusion of the eyeball. In the rabbit, however, the vaso-motor influence is predominant, and stimulation of the sympathetic in this animal by contracting the orbital bloodvessels causes retraction of the eyeball.

THE GRESHAM LECTURES ON PHYSIC

WHEN Sir Thomas Gresham founded what he fondly hoped would constitute the basis of a real University of London he could hardly have imagined that his College would in course of time be given up to popular instruction in the art of medicine and surgery. The present Gresham Professor of Physic has held office for many years and has doubtless been often exercised to find suitable topics for his elementary instruction of the laity. That he may have sometimes erred in his selection is but natural, but at least he may be expected to exercise some judgment in the matter and avoid trenching on topics which can only be properly appreciated by those who have had a medical training. The syllabus of the next course of lectures which he is to deliver lies before us, and we observe with deep regret that Dr Symes Thompson has, unwittingly we believe, transgressed against one of the cardinal principles of the College of Physicians, of which he is a Fellow. The course is to be devoted to the nose and mouth, subjects which doubtless admit of popular treatment and afford scope for the introduction of much useful and homely advice. Whether his audience will be able to appreciate all the topics included in the third lecture, in which he is to treat of the "Nose and Mouth in Health and Disease" may be open to question, and it speaks volumes for his proficiency in the art of lecturing that he should feel able to convey an intelligible view of the subject within the space of one hour. It is however in the scheme of the fourth and concluding lecture that we think Dr Thompson has overstepped the limits which his

College, as we thought, not only at the time but on subsequent occasions, till at last public opinion was sufficiently directed to the matter and the governors could no longer postpone giving their attention to it. The College has suffered, not only by the death of some of the boys and one of the most valued masters, but by the serious and widely spread illness of others, necessitating the removal of the whole school for a time. Nor are these the only evils that have arisen. Those of our readers who are interested in Wellington College can easily see for themselves the ill effect this long impairment of health has had on the scholarship of the boys by referring to the "Public School Record" in the *Pall Mall Budget* of Dec. 8th, 1892. Mr Rogers Field in his report¹ congratulates the governors on the sanitary improvements he has been permitted to effect regardless of cost, which he considers make "Wellington College one of the best, if not actually the best, in regard to the completeness and excellence of its sanitary arrangements" as compared with similar institutions. We hope Mr Rogers Field will not be doomed to disappointment. It would have been better for the reputation of the College had a comparison been made between the sickness of the past and preceding terms with those of previous years in order to show if there had been any decided lessening of sickness amongst the boys since Mr Rogers Field's improvements have been in operation. Confidence in the institution has been shaken, as is proved by the falling-off in the number of the pupils. If the governors wish this to be re-established they must give proof that the works have had the desired effect in making the boys less liable to sickness and more vigorous in work, as health is as essential to work as work is to scholarship, for, according to the "Public School Record," in entrance scholarships at the universities Wellington College is below all other public schools and below most of the grammar schools which aim at university distinction. It is no small undertaking for the newly appointed headmaster to rectify this and we wish him every success.

THE QUEEN IN FLORENCE

UNDER date April 3rd a Florentine correspondent writes "Queen's weather in the City of Flowers—as near a definition of the earthly Paradise as can be given—continues to characterise Her Majesty's vernal *villeggiatura*. The cloudless skies, the brilliant sunshine, the crisp, restorative air just freshened, but not chilled, from the snow wreaths above Vallombrosa and on the Pistoiese Apennines, make out-door exercise, whether for the pedestrian or the carriage inmate, a highly agreeable function, appreciated as it fully is by crowds of foreign residents who, for the time at least, have rendered Florence something like a suburb of London, of Paris or of Berlin, or rather of all three combined. Queen Victoria has visibly improved in health since her arrival on the 23rd ult. and greatly enjoys the 'still life' of the Villa Palmieri, with its opportunities for quiet little excursions into the rural neighbourhood and the exchange of kindly greetings on the hill sides with the simple country folk and their little 'hostages to fortune.' The loyal self-suppression with which the Florentines comport themselves under very strong temptation to the contrary leaves Her Majesty all the privacy she wishes, and doubtless enhances her sense of release from the 'cares that link with empire' and from the 'monotonous uncertainty' of a spring in the British Isles. Many of the public demonstrations at which the Queen was expected to assist have had to dispense with Her Majesty's intervention, the Princess Beatrice acting in her stead and acquitting herself with a gracious cordiality and effect which have won the hearts of the Florentines. One of these occasions was the distribution of prizes at the Circolo Filologico to those of

the public—the cabmen and coach hirers particularly—who had responded best to the regulations of the Society for the Prevention of Cruelty to Animals, and the interest shown by Her Royal Highness in the kindly treatment of the dumb servants of society cannot but react favourably on a movement to minimise the maltreatment and the sufferings of the brute creation and to humanise its often cruel and all too negligent masters. The great event of the week is the bazaar in aid of the reconstruction of the Church of the Holy Trinity, the increasing attendance at which has rendered its accommodation quite inadequate to the yearly augmenting demands of the British community. Here, again, the Princess Henry of Battenberg will represent Her Majesty the Queen and impart, it is anticipated, a spirit to the sale and a success to the enterprise which must accelerate the consummation it is intended to promote. Even more than on the occasion of Queen Victoria's former visit, Her Majesty's presence in Florence will give a manifest and enduring stimulus to the efforts of its leading inhabitants to improve the conditions, sanitary and social, under which they live, and will effectively reinforce the endeavour of the Duke of Aosta, who represents the King of Italy in the central city of the peninsula, to restore to it the prestige and the attractiveness which it has not quite maintained since it ceased to be the capital of an Archduchy. I may add that Florence has never been so full as during this week, and that with the ever increasing influx of the foreign element on which its prosperity relies the municipality will be encouraged in the matter of water supply, of drainage and of 'nettezza pubblica' (tidiness of the streets) so to improve on tradition as to silence the sanitary censure, all too justified by its past, and to replace some of the more formidable deterrents by real attractions to the passing visitor or to the permanent sojourner within its gates."

THE "LEICESTER SYSTEM" OF TREATING SMALL-POX

THE article contributed to the columns of THE LANCET by Mr Bremner,¹ which, to our thinking, showed conclusively that, in respect to provision for isolation and inspection, Leicester has no claim to any special superiority over other towns, and in which, too, it is proved that the so called "system," so far from being economical, as its advocates were wont to assert, is necessarily costly in proportion to its efficiency, has naturally aroused some indignant replies from those who have been for many years responsible for carrying it out. The matter was brought before the Town Council on the 27th ult. by Mr Alderman Windley, the chairman of the Sanitary Committee, of which Mr Bremner is a member. The chairman spoke warmly, but the fact that he should have felt it needful to speak at all says much for the state of disunion that exists amongst those responsible for the health of the town on this matter. Mr Windley explained that the cause of the outbreak in the fever hospital was due to an error of judgment on the part of the medical officer, but he did not tell the Council that the ill results of such an error would not have occurred at all had his committee had the foresight to provide sufficient accommodation for the isolation of doubtful cases. As regards the main question we cannot see that Mr Bremner's version differs materially from that of Mr Alderman Windley. The plain fact is, as we point out elsewhere, that Leicester, confident in its security by the adoption of "quarantine" as the chief means for combating small pox, was unable to carry it out on the original lines from mere lack of accommodation. The essence of the "Leicester system" is the removal of members of infected households to "quarantine," and since that has not been carried out during the past three months it has failed. Nevertheless, the

¹ The Times, March 24th, 1893.

² THE LANCET, March 25th, 1893.

food, either in water or in earth. (2) The spread of influenza and epidemic can occur but seldom. (3) Infection is as a rule, effected by means of the still moist secretions of the air passages. Dr Pfeiffer considers the catarrhal form of influenza to be by far the most frequent. In mild cases scarcely to be distinguished from ordinary catarrh, he found the bacillus in enormous numbers in the secretion of the nose, whereas in cases of simple catarrh the secretion is almost sterile and certainly contains no bacterium to be mistaken for the influenza bacillus. During the acute stage the bacillus is present in the expectoration in large numbers. It sometimes persists in it for weeks or even months thus explaining those cases of prolonged convalescence which have been noted especially amongst tuberculous individuals. The general symptoms are to be regarded as the result of the absorption of influenza toxine. The bacillus may reach the pleura and there excite a pleuritis. No animal is known to be spontaneously affected by influenza. Guinea pigs are very susceptible to the influenza toxine, exhibiting symptoms of fever, dyspnoea and extreme muscular weakness, strikingly resembling the clinical appearances in man. In conclusion, Dr Pfeiffer points out the importance of thorough ventilation in all places where many people are assembled, such as theatres, schools and barracks since every cough or sneeze expels infectious material into the air. He further suggests the use of disinfecting washes for the nose and mouth and the inhalation of antiseptic vapours and concludes by expressing the hope that the knowledge of the cause of this remarkable disease may lead to the discovery of a specific remedy.

TUMOUR OF CENTRUM OVALE

In the last number of *Brain* Dr Landon Carter Gray of New York relates a case in which a tumour in this situation gave rise to paralysis of motion and muscular sense. The patient was a man aged thirty-eight, whose left leg and arm had gradually become weak about a fortnight before he first came under Dr Gray's observation. Coincidentally with the onset of weakness the patient had suffered from headaches and a certain amount of insomnia. The only significant points in his previous history were an attack of what was apparently Ménière's disease some years before, which had been succeeded by permanent deafness in one ear and the occurrence of an abscess in the region of one knee. This had been removed by means of caustics. About a year before the symptoms of cerebral trouble began a hard nodule had appeared in Scarpa's triangle and had gradually spread so as to involve the whole of this anatomical area. The patient had never suffered from any convulsion or loss of consciousness. There was no distinct syphilitic history but iodide of potassium had been administered. It was borne so badly, however, that it could not be persevered with. On examination there was found to be considerable loss of motion in the right leg and also in the arm. In the foot sensibility to tactile and painful stimuli was slightly impaired, but the temperature sense was normal, the muscular sense, both in the fingers and foot, was very much impaired. There was no affection of the face or tongue, the ocular muscles were not affected, and there was no optic neuritis. A diagnosis of subcortical tumour was made. A fortnight later the paralysis had advanced, so that the right leg was completely paralysed, and in the corresponding upper limb only slight movement of the fingers was possible. Sensibility to touch and pain in the right hand was now distinctly affected, the face and tongue were still free, but the headache had become intense. Intelligence and speech were unaffected. On being reclined the dura mater bulged very much, but was otherwise normal in appearance. No tumour was found, although the brain was punctured in various directions. The patient became comatose very soon after the operation and died three days later. At the necropsy the calvaria was found to be

unusually thick and there were inflammatory changes at the seat of operation. On making vertical sections of the brain from before backwards, and examining them carefully, a neoplasm about the size of a "hickory nut" was found in the ascending parietal convolution, in the neighbourhood of the posterolateral extremity of the convolution, and situated about a quarter of an inch beneath the cortex and about the junction of the upper and middle third. This was cystic in the centre and on microscopic examination was found to be a small round-celled sarcoma of the melanotic variety. The nature of the tumour in the leg is not stated, but the case illustrates the possibility of the existence of loss of muscular sense with the almost complete retention of sensibility to ordinary tactile, painful and thermal stimuli.

LIBEL ACTION BY A SURGEON

At the recent Birmingham Assizes before Lord Justice Bowen, Mr F. R. A. Evans recovered damages to the amount of £75 against the proprietors of the *Birmingham Daily Post* for an article written in December 1889 in reference to the trial of the plaintiff for the manslaughter of a woman during her confinement, in which the plaintiff was acquitted, the judge describing the prosecution as vindictive. The judge said it was remarkable that the plaintiff did not complain till three years after. Such actions are just and we rejoice in their success, but they should be taken soon after the alleged injury.

OUTBREAK OF TYPHUS FEVER IN TRIPOLI

ONE of those epidemics which in subtropical latitudes make the nearest approach to the mediterranean plague has broken out in the Ottoman pashalik of Tripoli and has already caused great mortality, particularly in the plateau of Barca. From the imperfect details that have reached us the symptoms appear to be those of typhus fever—that is of a continuous prostration with grave disturbance of the nerve-centres inducing muscular lethargy and mental hebetude, and with an exanthematous display of spots red or livid, about the fifth day from the beginning of the fever. The immediate causes of this explosion are also withheld but are not far to seek. In Tripoli the population lives poorly, trade has for some time been depressed, and to the extent of lowering influences must be added, in the plateau of Barca, the noxious custom of burying the dead within a few inches of the surface of the soil. This latter usually sandy and always light and friable, had for weeks been inundated with heavy rains so that the scanty covering of earth was washed from above the corpses and pestiferous exhalations were the necessary consequence. In these circumstances the epidemic has made rapid progress, one fifth of the inhabitants (who number about one million in all) have been struck down, a large proportion, amongst them the governor of the province, have died, and still the malady gives no signs of abating. A correspondent writes 'The panic is indescribable, the law courts are shut, the shops are deserted, all business is at a standstill, and the European population is in full stampede.' We await a duly authenticated medical report of the epidemic and have but to hope that it may not spread to the Mediterranean ports with which Tripoli is in frequent communication—particularly Tunis, Alexandria and Malta.

DEATHS OF EMINENT FOREIGN MEDICAL MEN

THE deaths of the following distinguished members of the medical profession abroad have been announced.—Dr David Wiener, author of a 'Manual of the Medical Laws of the German Empire,' at the age of sixty-seven, at Graudenz.—Dr Adolf Fischhof, formerly a well known Vienna practitioner. He took part in the "March Move-

office imposes on him, and the best way to indicate this will be by quoting this part of the syllabus in full —

"Treatment of Disorders of Nose and Mouth — Prevention of Chronic Catarrh of Nose, Throat, Ear &c., Polypi and Alteration in the Nasal Bone, Electrical and other Remedial Treatment of the Tongue and Throat, Use of Caustics and Medicaments to Palate and Lips, Treatment of Hare lip and Cleft Palate."

It is a pity that Dr Symes Thompson should fail to see that no useful purpose can be served by dealing with such topics as these in a public discourse and that he should mar the good work of instructing the laity in the principles of health, which he has so often undertaken, by the introduction of details of medical and surgical treatment the full bearing of which can only be appreciated by professional men.

ABUSE OF LONDON DISPENSARIES

THE *City Press* reports the opinion of a medical man—the medical officer of a London dispensary—that London dispensaries are much used, that is, much abused, by those who can afford to pay. This gentleman was struck with the well to do appearance of a man with a free letter. On inquiry, he turned out to be a foreman and earned regularly upwards of 50s a week. Such a patient would scarcely be a fit member of even a provident dispensary. He would be excluded by the rules of so good a provident dispensary as that of Northampton, which provides that no shopkeeper or foreman in a factory can become a member. It is a fraud for such a man to appear with a free letter at a charitable institution, the blame of which must be shared between him and the subscriber who gave him the letter. Our city contemporary does good service by publishing such facts.

PREVALENCE OF FEVER

DURING the week ended March 25th scarlet fever showed somewhat greater prevalence in the large towns of the kingdom compared with that during the former week. More than 1000 cases were notified, London supplying about 400 of them, next came Sheffield, West Ham, Leicester and Liverpool. Some 300 cases of diphtheria were reported, London contributing more than half of them, West Ham and Cardiff coming next. Of the total number of cases of enteric fever reported the metropolis furnished little more than a fifth, Liverpool and Birmingham the next largest number. It is reassuring to know that, though scarlet fever incidence in London has not diminished, the mortality from this disease has declined, the deaths from scarlet fever having been last week below the average. Though more cases were admitted into hospital the numbers remaining under treatment are about the same. The diphtheria mortality, though considerably less during the week, was yet greatly above the average. More cases were admitted and more remained under treatment. It is gratifying to be able to record that the influenza mortality is distinctly less.

SOCIETY FOR THE STUDY OF INEBRIETY

SIR WILLIAM CHARLEY, Q.C., D.C.L., late Common Serjeant, read an elaborate paper on the "Inebriates Acts, 1879 and 1888. Ought we to amend them?" at the annual meeting, held in the rooms of the Medical Society of London, on the 4th inst., the President, Dr Norman Kerr, in the chair. The learned gentleman accepted the definition of inebriety as a disease closely allied to insanity and recognised the right and duty of the State to provide curative detention for inebriates of all classes. He showed that in the Bill drafted by him in 1877 the reception of inebriates by a retreat was a comparatively simple matter, the request for admission requiring attestation by only one justice or by a commissioner to administer oaths in the Supreme Court. The only mode of admission at

present is by appearance before two justices, which deters many applicants. Sir William Charley had also provided for the reconveyance to the retreat from which he had escaped of any fugitive under the Acts, whereas the existing law necessitates the intervention of a justice's warrant and apprehension of the escaped patient by the police. Dr Dalrymple's Bill of 1870 proposed to empower guardians to detain inebriate paupers for treatment. In the 1877 Bill Sir William Charley provided for compulsory seclusion by justices in Petty Session, but he now preferred the Victorian authority of a Master in Lunacy or a County Court Judge on the production of two medical certificates. Sir William Charley endorsed the dicta of Drs. Dalrymple and Norman Kerr on inebriety as a disease demanding therapeutic seclusion, either voluntary or involuntary, and pointed out the public approval of such treatment by Lord Aberdeen when Home Secretary, Earl Shaftesbury, Lord Selborne and Mr Justice Grantham, in addition to many eminent medical authorities.

DEATH DURING THE ADMINISTRATION OF CHLOROFORM

A boy, aged nine and a half years, suffering from necrosis of the lower jaw, was about to be operated on at King's College Hospital on the 3rd inst., but before he was brought under the influence of the anæsthetic he suddenly died. Chloroform was being administered in the usual manner on a towel, but after a few inspirations had been taken and whilst still quite conscious, the boy vomited, began to struggle violently, sat up on the operating couch with a markedly frightened aspect, and on being placed back, on the couch his spine became arched and his heart ceased to beat. The respiration continued for some minutes (at least five) after the cessation of the heart's action. Strychnin and ether were injected, ammonia was applied to the nose, hot and cold frictions, artificial respiration, tracheotomy and the galvanic battery were all in turn resorted to, but the heart gave no sign of renewed action. At the post mortem examination it was thought that there was a pale condition of the muscle of the right side of the heart and a somewhat thin wall, but nothing else abnormal was found. At the inquest, held on Wednesday, the jury returned a verdict of "Death from syncope through fright whilst under the influence of chloroform."

THE ETIOLOGY OF INFLUENZA

THERE is an interesting contribution on this subject in the March number of the *Zeitschrift für Hygiene* by Dr R Pfeiffer of the Institute for Infectious Diseases at Berlin. After describing the bacillus of influenza, the best methods of staining and the manner in which he overcame the difficulties, hitherto insurmountable, in cultivating this enemy of mankind, Dr Pfeiffer details the results of numerous investigations and points out the following practical deductions to be made from them. The bacillus grows very rapidly in pure cultures on a suitable soil, but no growth takes place at a temperature under 26° C (78.8° F) or over 43° C (109.4° F). In water at ordinary temperatures (60° F) the bacillus dies rapidly (in eight hours). In bouillon it retains its vitality for from fourteen to eighteen days. Hence sputum &c., if not allowed to dry, is probably infectious for at least fourteen days, and we may here find the explanation of cases, recorded by competent observers, in which the infection appears to have been communicated by means of letters, clothing &c. The bacillus is very rapidly affected by drying. Cultures exposed to dry air at a temperature of 37° C did not survive for more than two hours, and even in moist air usually not more than eight hours and never more than twenty. Sputum, if dried, was quite sterile in thirty-four to forty hours. Dr Pfeiffer draws the following conclusions from these facts—(1) The influenza bacillus is not capable of multiplication outside the human

as a component part of a teaching university, for which London is now well prepared. If adopted, having been emancipated from the fetters of the solitary school to which he is now restricted, the advanced student will find that his horizon is widened. "He will no longer learn *jurare in verba magistri*, but to form juster conceptions of science and to take hereafter broader views in practice than he possibly could when confined to the narrowing influences of the teaching of one set of men and the traditions of one hospital only, and he will be led to form a clear and considerate judgment of men whose opinions, though differing from those of his own teachers, he may yet find not to be entirely erroneous or undeserving of consideration." Of the separate Poor law infirmaries he formed a just and high estimate as storehouses of vast and varied sources of medical material for clinical purposes, but he hesitated to include them in his scheme of general professional education, lest it might be attended with some difficulties from the nature of their government. I believe that I am able in some degree to supply the missing link in his plan, partly from my personal knowledge of the character and organisation of those excellent and well managed institutions during the time I acted as the Local Government Inspector in London for Poor law purposes, whilst my friend Dr Bridges was employed in a Parliamentary inquiry into the working of the Factory Acts and in part from the evidence submitted to the Lords' Committee. The origin of these infirmaries was in a great measure due to the action of THE LANCET Commission of 1865 in exposing the defects of the Metropolitan Workhouse Infirmary system and to the public discussion to which its reports gave rise. This led to the passing of what is known as Gathorne Hardy's Act, the object of which was to remedy the defects of those infirmaries, which were acknowledged officially to be (1) insufficient medical care and nursing, (2) imperfect construction and sanitation, (3) overcrowding, and (4) deficient means of classification. Not only were these defects dealt with in the workhouses themselves to some extent, but the radical remedy of removing them altogether from all pauperising influences in their immediate control and arrangements has been eminently successful.

The testimony of the Lords' Commission on this point is to the following effect. Notwithstanding some objections in matters of detail which were offered in evidence, but did not touch the soundness of the principles underlying them, their lordships observed, "The evidence on the whole appears to indicate a general recognition of the high standard of efficiency attained by the best of the new infirmaries, both in their structure and in their general arrangements and management." There are now, according to Dr Bridges, twenty four of these infirmaries and forty four out-door dispensaries, in addition to the imbecile asylums and fever hospitals under the control of the Metropolitan Asylums Board. In the infirmaries are stated to be 12,445 beds, and in the other institutions referred to some 4700, according to a return in my possession. With two exceptions of the conversion of old buildings these infirmaries are all on the pavilion plan, and as respects ventilation, drainage and all internal arrangements necessary for the effective treatment and classification of the sick and injured are far superior to any of the general and endowed hospitals. There is a widespread impression that only chronic and some incurable diseases are contained in them but this is absolutely erroneous. There is no doubt a considerable proportion of chronic cases either transferred from the voluntary general hospitals or admitted directly, but there is also a very large number of acute cases of most of the ordinary affections prevailing amongst the poor. In fact the disorders of the classes which come under the operation of the Poor laws from infancy to old age and natural decay including every intermediate stage of life, with all the risks to which they are exposed in the busy periods of active life in London, can nowhere be studied with greater advantage than in the infirmaries referred to. In a decennial return furnished to the Local Government Board from one of these infirmaries there were 18,927 admissions of patients of whom 10,116 were recorded as cured, 2996 improved, 1078 took their discharge prior to cure, 690 were transferred to other institutions and 4047 died. None were ever sent away to provide beds for other patients and a very considerable portion of those who succumbed died from old age and natural decay—a class for whom no accommodation exists in general hospitals, rightly enough. In another return of deaths in one year in nineteen Poor law infirmaries 993, or 16.3 per cent., died from phthisis, 831, or 13.5 per cent., from chronic bronchitis, 571, or 9.5 per cent., from

chronic forms of paralysis, 451, or 7.3 per cent., from senile decay, 362, or 5.9 per cent., from chronic forms of heart disease, and 227, or 3.7 per cent., from kidney disease. In addition to the treatment of cases of acute and chronic disease, important surgical operations are performed in some, and might be in all, of these institutions with almost exceptional success, so that they are to all intents and purposes general hospitals in all but name, yet tainted most unfairly, I think, with the civil disabilities of pauperism from destitution.

With the sanction of the Local Government Board, I collected and published the statistics of 87,726 deliveries in Poor law infirmaries, of which 23,117 were in the metropolis, amongst whom the deaths were 0.88 per cent. out of the whole of the Poor law institutions within the registration area of London. In all the fever hospitals and imbecile asylums under the control of the Local Government Board records are kept which it would occupy too much space to reproduce, but the combination of all the conditions above mentioned shows what a vast amount of means of clinical instruction could be furnished by them, were they included in Mr Erichsen's federal scheme.

In addition to furnishing immediate medical relief to all cases provided with the requisite official authority, and to any very urgent case which presents itself even without such authority, the two most important considerations connected with the separate workhouse infirmaries, apart from their professional excellence, are the simplicity and efficiency of their management and the economy with which they are worked. The staff usually consists of a resident medical superintendent, with one or at most two qualified assistants, a matron, a steward, and a staff of nurses, who are mostly trained by themselves. The superintendent has undivided control over the whole establishment, and all hands are paid and resident and devote the whole of their time to their duties. This, I think, is the secret of their success, and accounts satisfactorily for the very large amount of work they are able to perform, with advantage to the sick and economy to the rate payers. I consider myself entitled to mention my own personal experience upon this question, for I at one time, in the early part of my career, occupied a similar position for some years, when I was the administrative and executive head of a general hospital, attached to a medical school, and containing 500 beds, as first physician and professor of medicine and clinical medicine. I had charge of one hundred of these beds, with a house physician to assist me. It gave me a considerable amount of purely professional work, and I had in addition the administrative charge of a medical school of some 200 or 300 students, a large number of whom were resident. All this I was enabled to get through simply because I was a paid resident responsible officer, and devoted the whole of my time to my duties. The college and hospital were governed by a Council of the Professors, of which I was a member, and all was again under the administrative control of a Council of Education, of which I was likewise a member and secretary. Neither of these bodies ever interfered with the details of management or in the individual personal responsible control of the whole institution, with every branch of which the college council was thoroughly acquainted. They acted as consultative bodies, and the latter carefully inspected the college and hospital at each of its meetings. The accounts and expenditure were audited by the audit department of the treasury. A somewhat similar government to this would be able to exercise a like efficient control over all our voluntary and endowed general hospitals, and more particularly those to which medical schools are attached, without additional cost, without a multitude of self elected committees between which there is no continuity of action, without unseemly contentions, and without overgrown establishments for which there can be no real need.

As to the introduction of clinical teaching in Poor law infirmaries and other institutions even in existing circumstances there would be no real difficulty if it is properly conducted and is not associated with any schemes introducing an outside element such as consultative honorary physicians and surgeons with a following of their pupils, who would not be under the control of the resident superintendent or of the boards of guardians who are responsible for the management of all the institutions in their several districts. The strong objections formerly entertained by all Poor law authorities including the Local Government Board, have nearly died out and are not likely to be revived, provided no proceeding calculated to interfere with their authority and

ment" in the year 1848. His age was seventy six and he died at Emmersdorf, where he had been living in retirement for some few years.

DR EDWARD MAUREL (*Mid. Medical*, Sept 10th and 17th, 1892) concludes from experiments that tuberculin, given in a therapeutic dose and in the usual manner, exerts no sensible action either on leucocytes or red blood corpuscles, and that, consequently, if tuberculin contains the product of the secretion and excretion of the bacilli of tuberculosis, the conclusion may be reached that such products have no apparent action on the formed elements of human blood. From further experiments he also thinks that the leucocytes of man offer an effective resistance to the bacillus tuberculosis, as numerous clinical facts show, and that it is sufficient slightly to attenuate the power of the bacillus (as he did by observing its action under various temperatures) to enable the leucocytes to triumph. These results, he maintains, would seem to justify the consoling thought that we merely require to discover an agent capable of bringing about this slight attenuation in order that we may be able to cure a disease which at present exacts a heavy tribute from humanity.

At the annual meeting of the Balneological Society Dr Kallay of Carlsbad, speaking of diabetes, distinguished two forms of the disease—the primary or genuine and the secondary or symptomatic. In the former the presence of sugar and symptoms bear a direct relation to one another and there is no organic disease. Appropriate diet and balneological treatment greatly benefits or cures such cases. In the second form symptoms are independent of the excretion of sugar and depend upon disease of some organ essential to life. Prognosis and treatment, therefore, in such cases depend upon the conditions of the primary malady.

THE London County Council have issued a series of regulations under the Glanders or Farcy Order of 1892 respecting the movement and marking of animals diseased with or suspected of glanders or farcy, and as to the removal of fodder, litter &c, the proper method of cleansing and disinfection in cases of such disease and the removal and destruction of the carcasses of animals so affected. The Council have also given notice that any person failing to intimate to the police that he has in his possession or under his charge an animal affected with glanders or farcy will be liable to a penalty of £20.

OUR remarks published in THE LANCET of March 18th with respect to the attitude of the Secretary for Scotland towards the question of county medical officers engaging in private practice have, we hear, been welcomed by our professional brethren engaged in that department of official work in Scotland. Amongst the appreciative notices of our conclusions on this point we have to acknowledge the thanks of the members of the Society of Medical Officers of Health for Scotland, conveyed to us by the hon. secretary of that Society.

At the next meeting of the Medical Society of London (April 10th) Dr W. R. Gowers, F.R.S., the Fothergillian metallist, will deliver an address on "Neurology and Therapeutics."

LITERARY INTELLIGENCE.—Messrs James Elliott and Co, Temple chambers, Falcon court, Fleet-street, E.C., are preparing for publication forthwith the whole of the alchemical and hermetic writings of Paracelsus, for the first time completely and faithfully translated into English, with the side lights of the chief commentators and exhaustive vocabularies and indices. The magnitude of the undertaking will necessitate its issue in the form of monthly volumes, the first of which is now passing through the press.

ON THE ORGANISATION OF MEDICAL RELIEF IN THE METROPOLIS

By F. J. MOUTAT, LL.D., M.D. EDIN., F.R.C.S. ENG.

IV

PROFESSOR ERICHSEN in his refined and opportune monograph on "hospital federation for clinical purposes" treats the question in a masterly manner, with a weight and authority which carry conviction, although he puts it forward in the modest garb of a suggestion. His eminence in his own branch of medicine, the commanding positions he has occupied, added to his personal and practical acquaintance with the educational needs of this vast metropolis during the whole of his professional life, invest him with unrivalled authority in all questions connected with the practice and teaching of hospitals. Hence no apology is needed for reproducing his views on this very important subject. He mentions that "in the report of the Royal Commission on a Teaching University in and for London it is stated that the opportunities for clinical instruction that exist in the Metropolis are unrivalled. That this is so admits of no doubt and that these unrivalled opportunities are not utilised to their full extent is equally certain." He proceeds to prove this from his personal knowledge and experience, and shows how injurious it is to the students of medicine at home, who are in consequence compelled to resort to foreign schools of repute to obtain information which exists at our own doors, and only requires to be properly utilised, to place the British school at the head of all others in Europe and America. Is it not possible, he says, to place London not only on a level with, but far in advance of, all other European capitals as a great school of clinical medicine and surgery in the widest sense of clinical teaching, as well as in its more special departments? He believes that by proper organisation of the enormous opportunities for clinical study that exist, but are dormant in London this may not only be accomplished but would place it in the pre-eminent position that it is entitled to, from the professional ability and excellence of its physicians and surgeons.

After specifying the number and nature of the charitable and other institutions within the metropolitan area devoted to the relief of sickness, he alluded to the separate Poor law infirmaries, of which he expressed a favourable opinion as possessing special merits of their own, and showed that without them the means of providing for sickness amongst the poor were numerically inadequate. He remarked that, as regarded the voluntary institutions, there was another potent factor in raising the standard of gravity for the in-patients of many of the London hospitals. It was their acknowledged insufficiency for all those who sought their aid. Hence a strict process of selection was adopted by the resident officers in the admission of patients, resulting in the admission of only the most severe, urgent and important cases.

The eleven largest general hospitals, with their 4542 beds, their special departments and maternities, he considered by far the most important, "not only on account of the number of beds they contain and the character of the cases that fill those beds, but of the acknowledged eminence, as practitioners and teachers, of the great body of physicians and surgeons attached to them." Taken collectively and federated together, so that the instruction given in them should be opened to the advanced students, they would constitute a great clinical school of medicine and surgery in all their branches, that would be without an equal in Europe. In this case union is strength. Taken collectively they are superior to all, but their weakness lies in their isolation. The remedy is to be found in the abandonment of the system of isolation that at present exists, and which neutralises the immense and undoubtedly unrivalled opportunities for clinical study that are to be found in the great hospitals and other medical charities of London. For this should be substituted a system of federation for clinical purposes. It is idle to talk of these opportunities as being unrivalled so long as the most important of them are cut up into as many distinct and separate fractions as there are hospital schools in the metropolis, and the remainder are scarcely, if at all, utilised. With a plethora of proof of the same practical character, Professor Erichsen formulated his plan of federation, which is simple, practicable and of moderate cost, and leaves untouched the autonomy of each institution embraced in its circle of action.

with portions of their capital to meet immediate wants, obtain grants in aid from some such source as a common fund, similar to that which exists in the Poor law practice of London, or in the Parliamentary grants of Dublin to enable them to fill their empty beds and to fund their legacies as means of permanent income, which would probably in a few years render them self supporting and independent of all esoteric aid! Upon this point the Duke of Devonshire, at a meeting held in Chesterfield in October last to raise funds for clearing off a debt on the local hospital, whilst intimating his preference for voluntary contributions when adequate, said "he noticed a great and increasing tendency to throw upon public resources, mainly upon the rates, the support of many institutions supposed to be of advantage and benefit to the whole community, and it did not appear to him at first sight very clear why no such proposal had been made concerning such useful institutions as hospitals. The expenses of public education, and in some places the expenses of free libraries and in providing public parks and other means of recreation for the people, were procured from public resources and it did not seem clear why such an institution as that hospital should not be supported from the same source." The main contention of this prominent and influential statesman is, I think, correct, and private charities must perforce bear a fair share of the influence of the rapid advances in economic doctrine and practice in the matter of individual as opposed to collective questions and public control. Collectivism is said to be the leading economic fact of our time. I am by no means sure that the best intentioned example of this collectivism in relation to hospitals—the Hospital Sunday Fund—has not proved a two-edged weapon, and has not diminished rather than increased the contributions of the general public towards the maintenance of these institutions. It has also injured its position in assuming a commanding influence and officious inquisition into the affairs of the hospitals amongst which its funds are distributed by a standard of its own, which does not, and cannot take note of the real value of hospital work in its technical and professional aspects. This is evident in the feeling exhibited at the meeting recently convened to prepare a working scheme of a central hospital board for London.

It appears to me that it would answer no useful purpose in existing circumstances to examine the other more or less subsidiary matters and conclusions contained in the Lords' report. They are, for the most part, details of administration of which there is need for more exact information than is contained in the evidence for them to be dealt with authoritatively, in addition to which they legitimately admit of diversity of management without any sacrifice of principle. To change or modify them would necessarily be a work of time, and no good would be done by attempting to force upon unwilling authorities measures which do not secure their support and concurrence. The most important of them is the relation of the schools to the hospitals, a question which will enter into entirely new conditions with the establishment of a Teaching University for London, which is probably near at hand. On the question of nurses I had rather not enter. Prolonged as the inquiry was in this matter, no fresh light was thrown upon the training, diet, discipline and duties of the valuable body of hospital helps, and the general treatment of the matter was so far beneath the dignity and purposes of the committee as to be a subject of grave regret. A sensible and practical working solution of the introduction of a uniform system of hospital accounts was framed, and a similar record of hospital statistics in their scientific aspects will not be difficult to discover when the time arrives for its general authoritative introduction.

The remaining link in the chain of my contention is the grouping of the hospitals and other institutions devoted to the care and treatment of the sick poor of London, which will need for its understanding a map of hospital London brought up to date. This I hope to be able to supply.

MR. HORACE LOWTHER of Ventnor has been awarded the grant (fourth time) for efficient vaccination in his district.

MR. T. ANDROS DE LA RUE, the chairman of the Royal Hospital for Diseases of the Chest, City road, E.C., has sent in connexion with the forthcoming festival dinner a donation of 300 guineas and Messrs. Thomas De la Rue and Co., of Bunhill row, have promised 100 guineas.

CHOLERA.

CURRENT NOTES, COMMENTS AND CRITICISM.

FROM the accounts that have been received from Russia, Austria and France there cannot, we fear, be any doubt as to cholera having reappeared with the commencement of this spring, in obedience to those seasonal influences which tend to call forth, revitalise and develop it into activity. Cholera, all the world over, comports itself in much the same way, and its epidemic manifestations occur in obedience to some natural laws which cannot fail to be recognised eventually, notwithstanding that we have as yet been unable to fathom all the factors and reduce them to any scientific formula. There would be no need otherwise to have recourse to figurative language in our descriptions of its epidemic progression. A recrudescence of the disease—in the shape of localised outbreaks and sporadic cases at different places—during this season is the frequent precursor of its epidemic prevalence later on. From Russia we learn that it has broken out in the St. Petersburg district and in the Western Provinces. It is said to be raging in Russian Podolia, whence, according to reports from Vienna, it has been introduced into two villages in Galicia—at Zalucze and Kudrynce on the Russian frontier—by individuals who have lately been in Podolia. Both villages have been isolated to prevent the inhabitants from carrying it elsewhere. A later telegram from Vienna states that cholera has been imported from Russia into another Austrian frontier village and caused 5 cases and 2 deaths. Fears are very naturally entertained that the epidemic in the interior of Russia will manifest itself with renewed intensity when the warm weather sets in. In view of the recrudescence of the disease the Zemstvos are organising a special sanitary corps, consisting of doctors, hospital attendants and nursing sisters for active service, if necessary in the threatened provinces and meetings of medical officers are being held in these provinces to devise precautionary and other measures with the same object in view.

According to the latest official returns from St. Petersburg 65 cases of cholera and 19 deaths occurred in the town of Orel during the week ending March 26th. In the province of Oufa there were, from March 12th to 27th, 84 cases and 29 deaths, whilst in that of Elizabetopol 10 cases and 4 deaths occurred between March 22nd and 29th. The cases and deaths in other provinces not mentioned in the official returns are far more numerous, especially in Podolia and Saratoff.

We learn also from *The Times* that the anticipations of the reappearance of cholera in western Europe this spring are being realised. At Lorient, on the French coast, between Brest and Nantes, it has caused nearly 70 deaths in the course of the last fortnight and the epidemic is still extending. The type of the disease in France is stated to have been milder than in Russia and Germany, but it is estimated that there have been about 200 cases of cholera in Lorient during the last two weeks. The population of Lorient is about 40,000 and the sanitary condition of the town, as regards water supply, drainage and cleanliness, is not worse than that of many other provincial towns in France, is nevertheless most unsatisfactory and the conditions under which the bulk of the population live are favourable, instead of inimical, to the development of any epidemic disease. That this is so is evident from the medical history of the town in connexion with the prevalence of typhoid fever. Lorient is a naval arsenal. The naval forces quartered there during the six years ending 1890 amounting to an average strength of 4000 lost nearly 300 men from typhoid fever and the small military garrison have also repeatedly suffered from the same disease.

In connexion with the fostering influence of insanitary conditions and their intimate association with the prevalence of epidemic disease, it is a noteworthy fact that a serious outbreak of typhus fever is stated to have broken out in the vagrants' wards of the Nanterre prison, where it will be remembered, a very severe and fatal outbreak of cholera occurred last year. The disease was traced to individuals who had come from the police dépôt at Paris, but the past medical history of the Nanterre institution shows that there must be something radically wrong with the sanitary condition of that institution.

their public responsibilities be introduced. From my personal knowledge of boards of guardians in all parts of England and Wales and of the institutions under their control and management, I am satisfied that they are actuated generally by the best intentions in the fulfilment of their very important and somewhat unpopular duties, and I found them always disposed to adopt any measures of improvement of the desirability or necessity of which they were satisfied. The institutions themselves are, in many cases, misunderstood, for I have seen much happiness and contentment, particularly amongst the old people, with the kindness and consideration with which they were treated. To regard them as bogies and bugbears appears to me to be as impolitic, as it is unsound in principle. It will never reclaim the really vicious, ill disposed and incorrigibly idle, it has, I fear and believe, little or no influence on the cultivation of thrift, and is certainly disregarded by the majority of the proletariat in resorting to the Poor law infirmaries when seriously ill. The stigma of pauperism has no real significance for the professional tramp or incorrigible idler and criminal, but would often act injuriously upon those whose destitution is not due to any vices or acts of their own, but to sheer misfortune and ill success in life, for whom the provision of a quiet retreat is provided by one of the most beneficent Parliamentary measures ever passed—the Poor Law Act of 1824. The extension of the provisions of the Medical Relief Disqualification Removal Act of 1885 to the Poor law infirmaries (which, by a legal fiction, are constructively parts of a workhouse) would not only be just to the great class of well conducted artisans and labourers, whose temporary poverty is due to sickness and physical disability alone, and would be a positive gain to the voluntary hospitals, enabling them at once to sift their claimants to admission, and to reject those who are unable to bring proofs of their identity. It would also solve another problem of extreme difficulty, such as the unequal distribution of the voluntary hospitals of London owing to the great shifting of population, thus concentrating them where they are not much needed, and leaving great bodies, particularly of the poor, far removed from hospital aid. To transplant any of the older institutions from their present positions, even if it were practicable, would cause an expenditure for which neither the State, the municipalities, nor private benevolence are in any way disposed or prepared. It, moreover, does not necessitate any expenditure whatever, for a well ordered Poor law infirmary is situated in each of the Poor law districts, and these infirmaries would, as general hospitals for the poor only, with the existing voluntary institutions for the classes immediately above them, be ample for all the hospital wants of London. Their lordships expressed a great desire for a map to guide them in the matter, and were unable to find one. I am unable to understand how this happened, for I placed in the hands of one of them the best map yet constructed, which indicated the exact position of every hospital, Poor law infirmary, lunatic asylum, and Poor law dispensary within the metropolitan area. I suppose he must have overlooked it.

Now that the successful character and efficiency of the Poor law infirmaries are fully established, by a system of affiliation or federation such as Professor Erichsen suggests, all the hospitals could assist each other materially with much advantage and no detriment to any of them, as well as without the sacrifice of any of the principles associated with the proper bestowal of charity, either public or private. There need be no more emptying of beds for any illegitimate purpose, the sick poor who are unable to pay anything for treatment would be able to find immediate admission in all cases requiring it, without any danger of aggravating their sickness by waiting for vacant beds or subscribers' letters, and in all cases taken in their earliest stages would have the best possible chances of recovery and speedy return to their work. If the records and statistics of these institutions were carefully kept on a uniform plan, a flood of light would be thrown upon the value of the work done from the professional standpoint, and upon the management of all affections requiring prolonged treatment, such as cannot be now afforded by the voluntary hospitals. The federation of the hospitals, again, if properly directed and carried out, would materially affect the cost of maintenance, which now fluctuates to an extraordinary and unexplained extent—according to Mr Burdett from £100 to £30 per bed occupied. Combined action would lead to economy, as seen in the working of the central system of Paris. An official inquiry made into such a plan for the workhouses and pauper schools of the metropolis, the latter of

which I conducted, showed how valuable such a proceeding would be, but it was not adopted by the different boards of guardians, who would not then voluntarily combine for any purpose whatever.

In the matter of nurses, the Poor law infirmaries have shown that they can train them for their own use as well as any of the older institutions which make a traffic of their services for their own advantage, which is a doubtful means of adding to their resources. In the former the matrons, all classes of nurses, and establishment generally, are under the sole control of the superintending medical officer, in consequence of which undivided authority there is a total absence of friction.

With reference to the general introduction of clinical teaching in the Poor law hospitals, it will have to be carried into effect with extreme care and caution. The existing procedure cannot, I think, be adopted with any chance of success so long as attendance for clinical instruction has no acknowledged place and value in examinations as a necessary qualification for the higher offices of clinical clerks and dressers, and the most coveted positions of house physicians and surgeons, which frequently end in the highest prizes of the practising profession—the medical and surgical staffs of the great hospitals. In these positions, the best men will always come to the front, and acquire the fame and fortunes which are the well earned accompaniments of an eminence fully equal to that of every other branch of human intelligence and action, although it has not yet led to such social distinctions as are lavishly bestowed upon the Church, the Bar, and the Army and Navy.

The advantages, then, of converting the present Poor law infirmaries into general hospitals without civil disabilities appear to me greatly to outweigh any objections of principle which can be brought against the proceeding. That State aid can further demoralise or pauperise those who only claim it in times of acute suffering and are entitled to it I cannot understand. That it will discourage or prevent the practice of thrift is still more incomprehensible, as those who have nothing to save cannot in any circumstances put any thing by for a rainy day, since "Ex nihilo nihil fit." That it will dry up the existing sources of private charity I do not believe, that such help in sickness should only be given to the deserving poor may be correct in principle, if practicable, but sickness is an inexorable enemy which cannot be vanquished by any speculative measures. It demands immediate aid, however undeserving on moral grounds the recipients may be. Poverty is not a crime and should not be treated as if it were, and the working of the Poor laws should be acts of beneficence and not of oppression, even in those of its provisions which are necessarily restrictive of personal liberty of action, in the maintenance of order and discipline.

The present practice of the voluntary hospitals militates against the true principles of charity far more than aid in the Poor law infirmaries would, even if all civil disabilities were removed, for I do not consider the giving of relief, either to out-door or in-door patients, without the production of proper means of identification, to be at all satisfactorily met by any of the processes heretofore adopted. The conversion of the Poor law infirmaries would not increase, but, if properly carried out, ought to diminish, the pressure upon the rates, and it would not in any way touch the collection or distribution of the Hospital Sunday or Saturday funds. It would entirely stop all such objectionable proceedings as compelling patients to supply their own tea, sugar, or any other articles of personal comfort, and would never sanction the emptying of beds in unrelieved cases, with regard to which I entirely share the views of all foreign observers who have denounced the practice.

The accommodation available for the wants of London in dealing with sickness associated with poverty is certainly insufficient in existing circumstances, and empty beds, whatever their number may be, ought not to exist so long as they are required. Is there no remedy for this? I think there is, and although the suggestion for its amendment may meet now with a chorus of disapproval, it will, I believe, become inevitable in the near future. The present state of public feeling on the subject of the Poor laws and the wisdom of extending State intervention is decidedly favourable for regulating individual or even collective action where it is more required, as in the case of hospitals, than it was in factories, mines, and other economic undertakings in which it has proved eminently successful. Why, then, should not voluntary hospitals, which are almost all living beyond their available resources and parting

March 1st, 1883, states that, including some suburban districts, there are 32,653 houses in Marseilles, of which 5000 employ *tinettes filtrantes*, 4000 have *pousards*, 10,000 the dry pail or the *tinettes seches*, and 13,600 houses have no appliance of any kind, and must of necessity throw every thing into the street.

There are some houses, however, which possess private drains. During the last fifty years plumbers, when erecting closets in houses built in streets where there were no sewers, sometimes laid small earthenware drains in the street to carry away the slop-water, the overflow from the *pousards* or the *tinettes*, to the nearest sewer. These private drains were laid down without any sort of control or general plan. The greater their number the greater the profits of the builders and plumbers. Thus, in some streets there are as many as five private drains running side by side to the same sewer. Most of these drains are badly built and badly kept. Some are blocked up, others have burst, some do not even reach a sewer, and in many cases the record of their existence has been lost. No wonder that the subsoil of Marseilles is thoroughly contaminated. By far the greater part of what should constitute the sewage of Marseilles travels over the surface of the streets, along gutters that are not cemented, and has therefore, every facility of sinking into the earth. Yet in this earth, so constantly and widely contaminated, there are wells, and many people prefer the water of these wells because it is cool in summer time. The consequences are often fatal. For instance, some years ago there existed in the Rue Montgrand a boarding house where some thirty young men daily took their meals. Within one month seven of these boarders were taken ill and five died. The symptoms were most violent and similar in each case. There was a well in this house and leaking cesspools around. The first cases of cholera in 1885 occurred in a house where well water was drunk. It was also noticed that a case of cholera having occurred in the commencement of the Cours Lientaud, the cholera broke out successively in the Rue Neuve, the Rue Chateau Redon, the Rue de l'Académie, the Rue du Musée and the Rue Lorgue des Capucins. In that particular district the disease travelled downwards with the water from street to street, as if the cholera dejecta thrown out in the street on the higher level had infected the people living below.

From all these facts it will be seen that the condition of the domestic drainage is so deplorable as to suffice by itself to account for the high death rate and the numerous epidemics that afflict Marseilles. This, however, is not all. There remains still much to be said concerning the defective state of the public sewers and water supply.

OUTBREAK AT LORIENT

We hear that, upon the receipt at Whitehall of the news that cholera had broken out severely at Lorient, on the French coast between Brest and Nantes the Local Government Board immediately communicated with all the port and riparian sanitary authorities throughout the country, informing them of the fact. The news of this outbreak is indeed serious, and we sincerely trust that the sanitary authorities will heartily coöperate with the Local Government Board in the energetic steps they are taking to place our defences in proper order. It is true that the trade between Lorient and this country is not large, but there is obviously great danger of the disease shortly spreading to those French ports along the Channel, such as Havre, St. Malo, Cherbourg &c., with which we have frequent communication. The Channel Islands, too, are not unlikely to act as a stepping stone for cholera between France and this country, and in this connexion it is gratifying to learn that Dr Theodore Thomson is at the present time conferring with the authorities of these islands in reference to the precautions it is desirable for them to take. Lorient has, it appears, a heavy death rate from enteric fever, and this fact should prove an ominous warning to those districts in our own country which have a high mortality from the same disease.

A CANCER HOSPITAL FOR VIENNA.—Information has been received that Baron Albert Rothschild has given half a million florins for the purpose of founding a hospital for the treatment of persons suffering from cancer. It is understood that the gift is intended to commemorate the death of the late Baroness, who, it will be remembered, died from cancer.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT

REPORTS OF MEDICAL OFFICERS OF HEALTH

Parish of Chelsea.—The estimated population of this parish in the middle of 1892 was 97,341. The general death rate amounted to 20.8 per 1000, influenza having caused as many as 84 deaths. The zymotic death rate was a high one, being 3.1 per 1000, as against 2.8 for London generally. This excess was in a large part due to the epidemic prevalence of measles no less than 106 deaths having been attributed to it. Dr Parkes, assuming what is probably the case, that influenza is chiefly responsible for the excess of death rate from respiratory diseases over the average of non epidemic years calculates roughly that there have been sacrificed to this disease during 1892 some 140 lives in Chelsea and about 4200 in London. The quality of the water supply to Chelsea during the past year is said by Dr Parkes to have exhibited a considerable improvement on the supply during 1891. We read that in November, at a time when the Thames water was brown and turbid, the Chelsea Company succeeded in removing by filtration 47 per cent. of the organic matter and no less than 99.8 per cent. of the micro-organisms, which can grow on gelatine plates at the ordinary temperature of the atmosphere. It would be interesting to learn what proportion of those capable of growing at the body temperature could be removed by the filter beds referred to. In discussing the subject of filtration Dr Parkes calls attention to the immense importance of maintaining its efficiency during the present year, as upon that, he states, may depend the immunity of London from Asiatic cholera. It would be instructive if some research could be undertaken to show the behaviour of the comma bacillus in water which had passed through the filter beds of the several water companies of London. As Dr Parkes points out, experience has shown that cases of cholera can, and do, elude the vigilance of the port sanitary authorities. This is of course a fact which is fully recognised by the Local Government Board, and hence their praiseworthy efforts to stimulate riparian and other sanitary authorities to put their districts in order whilst the opportunity exists. Treating of the housing of the working classes, Dr Parkes expresses his opinion that a clause is wanted in the Housing of the Working Classes Act, 1891, prohibiting an owner from letting or permitting to be occupied, any part of a house for which a magistrate has issued a closing order.

Liverpool Port Sanitary Authority.—Dr Stopford Taylor opens his report by reminding us that in 1866 cholera was introduced into Liverpool by emigrants coming from Germany and that it then caused no less than 1782 deaths. The report tells us that during the prevalence of cholera at Hamburg last year two additional medical officers were appointed to inspect all ships coming from cholera infected ports. The total number of vessels entering the port during 1892 was 21,687. Of these 5167 were engaged in the foreign trade and 16,520 in the coastwise. Out of this total some 3867 were inspected. Of these 3399 were found in "fair condition" and 468 defective, in 174 cleansing operations were ordered, in 25 the bulkheads were faulty, in 165 there were damaged and useless ventilators, in 66 the closets were out of order, in 38 the decks required caulking. The number of emigrants passing through Liverpool during 1892 was 5632 less than in 1891. The reduction is more than accounted for by the great falling off of passengers to the United States during the cholera scare. It is instructive to read that during the months of August and September the clothing of all transigrants was fumigated under the supervision of an officer from the United States Consulate, prior to their departure for America. If the fumigation was carried out with sulphurous acid gas the United States has apparently much greater faith in the penetrative power of this gas than we have. Altogether there were fifty six ships reported during the year 1892 as either having or having had zymotic disease on board, and Dr Stopford Taylor gives a short account of the measures adopted in each case. We read of several vessels having been disinfected by the crew but the report does not state how this was effected. In view of Dr Stopford Taylor's great experience it would have been very acceptable had he given us a short account of the process by which disinfection of vessels is carried out in his port.

As regards this country we may here advert briefly to the important report which was submitted last month to the Court of Common Council by the Port Sanitary Committee and Dr W Collingridge, the medical officer of the Port of London, and adopted by the Court. Her Majesty's Customs have for many years acted as the quarantine authority and have worked conjointly with the port sanitary officers, and it has now been proposed that the two shall be divided and work independently. But Dr Collingridge pointed out that this would be attended with additional expense and other difficulties, and recommended the continuance of the present system for this year at any rate. He dwelt upon the importance of avoiding any unnecessary detention of vessels and unjustifiable interference with trade, and on the importance of Gravesend, supplemented by other points on the river if necessary, and the use of the telegraph as to the approach of suspected vessels. Dr Collingridge also proposed the establishment of a small floating hospital, and recommended that £2000 should for the present be placed at disposal for making provision in the port for the transport and isolation of cholera cases &c if found necessary hereafter.

A notice has since been issued by Sir John Monckton, Town Clerk of the City of London, stating that in consequence of a recent decision of the Commissioners of Customs a separate boarding, for the purpose of the medical inspection of vessels coming into the port of London from the various places abroad which are enumerated, will be made on and after April 1st by the medical officer of the Port of London Sanitary Authority, independently of that made by the officers of Customs. Arrangements have been made to place a hulk off the Port Sanitary Hospital at Denton, below Gravesend, from which the separate boarding and medical inspection of vessels will be made in a steam launch. Every vessel arriving from any of the specified ports and places will be brought up at the above point until inspected by the medical officer of health of the port.

The Medical Department of the Local Government Board appear to be fully alive to the possible gravity of the situation, for they have already taken, or are taking, steps to inform the Port Sanitary authorities throughout the country of the fact that cholera has again broken out on the Continent. Her Majesty's consul at Brest has informed the Foreign Office of the occurrences that have taken place at Lorient on the north western coast of France, to which we have already referred. Dr Thorne Thorne, the medical head of the Local Government Board, is still at Dresden attending the International Conference upon cholera, and is not expected to return to his duties in England for the next three weeks.

CHOLERA IN FRANCE

(FROM OUR SPECIAL CORRESPONDENT.)

A VISIT TO MARSEILLES—II

Futile Litigation—Bread making over Open Drains—An Objectionable Pail System—Contaminated Wells

It need scarcely be said that from time to time the municipality of Marseilles has sought to amend its drainage, not merely by discussing general schemes, but by improving the contrivances in actual use. The latter efforts, though leading to much litigation, have been of little practical service. So far back as Feb 17th, 1859, a municipal by law or decree was published forbidding the draining of night soil into the streets, gutters or sewers, yet to this day, as I have already described, there are very few cesspools in Marseilles, and the inhabitants of some 14 000 houses throw their soil into the streets. In 1865 the municipality awoke to the fact that the small cesspits under the causeways in front of the better class houses were an abomination. They said that these cesspits were only meant to be used as grease-traps, inasmuch as they were intended to receive only rain water and kitchen water—in fact, instead of being small cesspools they were only clumsy and large gullies. But the tribunal, in its verdict, declared that the administration had remained silent for twenty five years, that the *puisards* had been constructed according to the plan drawn up by the municipality, that similar *puisards* existed in front of buildings belonging to the municipality itself, that, though it was illegal to drain fecal matter into the sewers, the *puisards* had gratings which permitted only the liquid overflow to reach

the sewers, and that, therefore, under these circumstances, the persons prosecuted for draining their closets into their *puisards* must be acquitted. Against this verdict appeal was made, and the municipality even succeeded in causing some persons to be fined, but only one franc each, for the condition in which their *puisards* were found. Whatever may be the law is not very easily ascertained, and this in the face of the many trials and the contradictory verdicts obtained, and the fact remains that the *puisards* are still nothing but small cesspools with overflow pipes to the sewers. The Municipal Commission appointed in 1886 to investigate this matter—after visiting the *puisards* in some of the best streets of Marseilles, notably the Rue Saint Ferreol, where foreign visitors do most of their shopping—reported that “In the greater number of *puisards* the masonry seemed rough, uncemented and likely to allow a large quantity of liquid to filter through into the surrounding earth. Many were devoid of water. Excremental matter had accumulated at the bottom and was in a state of fermentation, and the gaseous products infected both the sewer and the houses. The houses were also exposed to the gases from the sewer as well as those generated in the *puisards*.” This state of things still prevails.

With regard to the *tinettes filtrantes*—that is, the pails, which allow the liquids to escape into the street gutters—the municipality decided that these should be permitted only in houses which had subscribed to the town water supply. Of course where there is a great quantity of water used the liquid escaping from the *tinettes* is less foul, but it is probable that, in its practical results, this measure has done far more harm than good. It has helped to disguise rather than to prevent the evil. If there is not much water thrown into the *tinettes* the nuisance caused by the overflow would be more offensive and the necessity of employing some other method of drainage would be rendered more evident. On the other hand, the danger is none the less. Cholera dejecta are thrown into a closet and fall down the soil pipe into a metallic pail. All the water thrown into the closet filters through these dejecta, and passes along the hall of the house into the street gutter. A part sinks into the earth between the paving stones of the gutter, but the rest finds its way to a distant sewer and then into the port. What must be the condition of Marseilles during an epidemic with the water that has filtered through the solid deposits of some 5000 soil pails flowing down the street gutters? In one house thus drained, and which I visited, I found on one side of the passage that an indenture only had been made in the stone flooring. The pail was under the staircase at the other end of the passage, and along this indenture flowed the befouled liquid which escaped from the pail. On the other side of the passage, within a yard of this open drain and with open doors facing it, there were men actually at work making bread. In another house the tap supplying the drinking water was placed immediately over the open drain. Thus, to fill a jug with drinking water, the jug had to be placed over an open drain within an inch or so of the fecal matter which, in solution, escaped from the *tinette filtre*, or pail. These *tinettes filtrantes* are, I have already observed, only used where there is a good deal of water consumed in the house, otherwise the water overflow would be abominably offensive, and this, I cannot help thinking, would be an advantage, for persons would then hesitate to draw water and make bread in such close proximity to open drains, they might even go so far as to demand a better system of drainage.

In houses where there is no water supply the *tinettes filtrantes* are not allowed to be used and the *tinettes seches* or dry pails are enforced. As already mentioned, the inhabitants have no closet in the house, but have to carry down and empty their utensils into the dry pail. The scavengers are supposed to remove these pails periodically. In practice, if the dry pail is used a great nuisance is created. The pail has no lid and is therefore very offensive. The mouth of the pail is small, consequently soil is constantly spilt outside the pail and infects the cupboard or niche where it is kept. The result is that tenants and others are generally urged not to make any use whatever of the pail. It is kept on the premises to satisfy legal exigencies, but not for use. I visited several houses of this description and found the pails perfectly dry, there was nothing in them. The inhabitants had simply poured everything out into the gutter in front of their houses. There are about 10,000 houses in Marseilles which have dry pails. An official report, bearing the date of

THE SERVICES

MOVEMENTS IN THE MEDICAL STAFF

SURGEON MAJOR R. W. FORD has been taken on the strength of the southern district. Surgeon Captain W. G. Clements has been taken on the strength of the Chatham district and posted to Chatham for duty. Surgeon Captain F. W. G. Hall has joined at Woolwich for duty. Surgeon Captain F. T. Skerrett has arrived home from India. Surgeon Major A. A. Lyle has proceeded to Strensall from York and assumed charge of the Station Hospital and camp vice Surgeon Lieutenant G. J. Buchanan. Surgeon Major Sharpe has been posted to Ireland for duty, and Surgeon Captain Cardew to the south eastern district. Surgeon Lieutenant Thurton, lately attached to the Coldstream Guards, has been posted to the southern district for general duty. Surgeon Captain Long has arrived at Sierra Leone. Brigade Surgeon Lieutenant-Colonel Carew and Surgeon Captains Melville and Wilson have arrived in the *Crocodile* on completion of a tour of service in India. Brigade Surgeon Lieutenant-Colonel Taylor has arrived from India on appointment to the Headquarters Staff at the War Office. Brigade Surgeon Lieutenant Colonel Caffie has been ordered to Belfast. Brigade Surgeon-Lieutenant Colonel Nash will succeed Surgeon Colonel Jameson as Principal Medical Officer of the army of occupation in Egypt. Surgeon Major Franklin has embarked for Gibraltar. Surgeon Captain Walker has joined in Dublin for duty. Surgeon Captain Weston has been transferred to the southern district.

Surgeon Lieutenant-Colonel H. H. Stokes having reported his arrival at Netley is posted to the Surgical Division of the Hospital. H.M.S. *Serapis* is expected to arrive at Netley about the 6th inst. with 219 men, 6 women and 10 children for Netley.

The Medical Establishment in Egypt has been augmented by three medical officers and two nursing sisters and a detachment of the Medical Staff Corps.

ARMY MEDICAL STAFF

The undermentioned Surgeon Captains retire from the Service receiving gratuities (dated April 5th, 1893).—Wm. Henry Phillips Lewis and Frederic William Reid, M.B. Surgeon Captain John Francis Bateson, M.B., is seconded for service with the Egyptian Army (dated March 16th, 1893). Surgeon Major General J. B. C. Reade, Professional Assistant to the Director General of the Army Medical Department, having completed the period for which he was granted an extension, will consequently be placed on retired pay. Brigade Surgeon Lieutenant-Colonel R. N. Macpherson attains on the 9th inst. the age of fifty five and will therefore be placed on retired pay from that date.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon Captain Thos. Fort, 6th Volunteer Battalion, the Manchester Regiment, to be Surgeon Major (dated April 5th, 1893). Surgeon Captain William Kinnear, M.B., 3rd (Dundee Highland) Volunteer Battalion, the Black Watch (Royal Highlanders), to be Surgeon Captain (dated April 5th, 1893).

INDIA AND THE INDIAN MEDICAL SERVICES.

The following appointments are announced.—Surgeon Lieutenant-Colonel R. Exham, Army Medical Staff, to be Secretary to the Principal Medical Officer, H.M.'s Forces in India, *sub pro tem*, vice Brigade Surgeon Lieutenant-Colonel W. Taylor, M.D., Army Medical Staff, who has been summoned to England for duty in the office of the Director General, Army Medical Department. Surgeon Major D. Finch Mullen, M.D. Indian Medical Service (Bengal), Residency Surgeon in Meywar, to be Civil Surgeon of Ajmere and Medical Officer of the Merwara Battalion. Surgeon Major P. D. Pank, Indian Medical Service (Bengal), Civil Surgeon of Bikanir, to be Residency Surgeon in Meywar. Surgeon Captain R. Shore, M.D., Indian Medical Service (Bengal), to be Medical Officer of the Meywar Bhil Corps. Surgeon Captain Shore will continue to officiate as Medical Officer of the Deoli Irregular Force and of the Harowtee and Tonk Political Agency. Surgeon Captain J. G. Jordan, Officiating Civil Surgeon of Noakhali, to act as Civil Surgeon of Backergunge until further orders. Surgeon Major A. E. R. Stephens, Officiating Civil Surgeon of Puri, to be Civil Surgeon of Jessore. Surgeon Lieutenant W. E. A. Armstrong, 1st Regiment Madras Infantry (Pioneers) Indian Medical Service, to the officiating Medical Charge of the

Regiment. Surgeon Captain J. K. Kanga, 17th Regiment Madras Infantry, Indian Medical Service, to the Officiating Medical Charge of the Regiment. Surgeon Captain W. G. Pridmore, 21st Regiment Madras Infantry (Pioneers), Indian Medical Service, to the Officiating Medical Charge of the Regiment. Surgeon Captain W. H. Bean, in medical charge, Station Hospital, Cannanore, is posted to do duty, Madras district. The services of Surgeon Captain T. C. Moore, Indian Medical Service, are placed temporarily at the disposal of the Public Department. Surgeon Major E. F. H. Dobson, M.B., Civil Surgeon, Goalpara, is transferred to the Khasi and Jaintia Hills district. Surgeon Captain J. C. Lamont, Indian Medical Service, Bengal Establishment, whose services have been placed temporarily at the disposal of the Chief Commissioner of Assam, is appointed, until further orders, to be Civil Surgeon of the Goalpara district from date of taking over charge from Surgeon Major E. F. H. Dobson, M.B. Surgeon Captain H. Handley, Civil Surgeon, Peshwar, has obtained furlough to Europe for one year from April 12th, 1893. Brigade Surgeon Lieutenant-Colonel W. H. Climo, Army Medical Staff, has obtained leave for six months on medical certificate, and Surgeon Captain F. W. Reid, on private affairs from date of availing himself of it, pending retirement.

NAVAL MEDICAL SERVICE

The following appointments are announced.—Surgeons—William E. Home to the *Shallow* when re-commissioned (undated) and Frederick A. Brice to the Cape of Good Hope Hospital (dated March 29th, 1893).

THE VOLUNTEERS AT NETLEY

Surgeon Lieutenant-Colonel Norton and officers of the Volunteer Medical Staff Corps were entertained at dinner on Monday, the 3rd inst., by Surgeon Major General Broke Smith and the officers of the Medical Staff. Drills took place after 2 P.M. for Volunteers. An officer of Volunteers was detailed daily as supernumerary to the orderly officer, Army Medical Staff, and was on duty for twenty four hours. Half the company of Volunteers were detailed for work in the medical and half in the surgical division of the hospital. The company attended divine service on April 2nd at the hospital chapel. On Monday a grand field day took place with the Hampshire Yeomanry.

PHYSICAL EXAMINATION OF CANDIDATES FOR THE ROYAL MILITARY ACADEMY

It is announced in *The Times* of the 6th inst. that hence forth only the successful candidates for admission to the Royal Military Academy will be inspected by a medical board and no candidate will be considered eligible unless certified by the board to be in all respects physically fit for Her Majesty's service. No candidate will be admitted to the Academy unless certified by the medical board to be in all respects, as to height and chest measurement, fit for Her Majesty's service, except where the board, having regard to the candidate's age and physique, expressly state that they are of opinion that there is every reasonable probability of his fulfilling the requirements of the service in the particulars referred to at the time of his completing his course of instruction and qualifying for a commission. The admission of such candidate to the Royal Military Academy will only be allowed on the understanding that he will not be granted a commission if he fails to attain the physical standard which may be in force at the time of the entrance examination. The present minimum standard for officers is 5 ft. 4 in. height and 33 in. chest measurement. The medical inspection will be held at the following stations: Colchester, Devonport, Dover, Edinburgh, London, Portsmouth, York, Belfast, Cork and Dublin. Candidates will be allowed to select the stations at which they wish to be medically examined. The decision of the board will in all cases be absolutely final.

THE BULLET PROOF FABRIC

This subject is still attracting a good deal of attention in Germany and on the Continent. We strongly suspect, however, that it will be a long time before soldiers go to war as a sort of pastime, owing to the battle-field having been robbed of its dangers by the resistance of the fabrics worn by them to rifle and revolver bullets. Even if the bullets do not penetrate these textures there is the effect of the force of impact to be considered, and we have not yet experimentally ascertained what this will be on living animals encased in a sort of wire netting covering. As it was very unlikely that Herr Dowe, or anyone else, would act upon Professor Billroth's humorous remark, that it would have been

Kingston on Thames Rural Sanitary District—This report contains a good map of the district to which it refers, and, although it is but a small matter, we must confess that a map, such as this, enables a report to be followed very easily. The district in question had during 1892 a general death-rate of 16.24, a zymotic death rate of 1.48 and an infantile mortality of 130.4 per 1000 births. Out of 14 samples of water analysed during the year no less than 11 were "largely polluted with sewage" and 2 were "unsatisfactory." It is gratifying to note that the antagonism of the working classes to having their children removed to the isolation hospital is dying out. There were 29 cases of diphtheria in the district during the year and 12 proved fatal. Dr Gibbs records that he saw several cases of sore-throat in Weston green, and, although it was impossible to classify them as diphtheria, they were clearly of an infective type. The patients were therefore ordered to be isolated and thus, in Dr Gibbs' opinion, an outbreak of diphtheria was avoided. We certainly think that the right course was adopted in this case. Dr Gibbs adds that two of the points which have been impressed upon him during the year are these—that very few of the cases of diphtheria appeared to be associated with defective drainage, and that in the early stage of the disease its "full infective force did not seem to be developed." These are points which are well worth recording. This report, which is a very thorough one, gives a short description of all the watercourses in the district and the steps which have been taken, or ought to be taken, to keep them in a cleanly condition. In connexion with the isolation hospital, Dr Gibbs makes a statement to which we are not quite able to subscribe—i.e., that the immunity of the nurses and attendants from infectious disease is due to having kept the air of the wards "constantly and thoroughly carbolicised." We notice that during the year there were 42 cases of diphtheria, 2 of cerebro-spinal fever, and 2 of typhoid fever admitted into hospital. None of these are diseases which, so far as we know at present, spread aerially, but even if this were so it is doubtful if carbolicising the air would act as a preventive. In our experience, the best safeguard as regards the nursing staff is to be found in carefully instructing the nurses as to the usual manner by which the disease is spread, and urging upon them the importance of avoiding unnecessary risks.

VITAL STATISTICS

HEALTH OF ENGLISH TOWNS

In thirty three of the largest English towns 6072 births and 4206 deaths were registered during the week ending April 1st. The annual rate of mortality in these towns, which had increased in the preceding three weeks from 19.6 to 20.9 per 1000, further rose last week to 21.2. In London the rate was 21.0 per 1000, whilst it averaged 21.4 in the thirty two provincial towns. The lowest rates in these towns were 12.8 in Swansea, 15.3 in Croydon, 15.5 in Hull, 17.3 in Brighton and 18.0 in Nottingham, the highest rates were 26.6 in Wolverhampton, 26.8 in Burnley, 27.7 in Salford, 29.3 in Preston and 29.8 in Bolton. The 4206 deaths included 433 which were referred to the principal zymotic diseases, against 406 and 423 in the preceding two weeks, of these, 119 resulted from whooping cough, 108 from measles, 65 from diphtheria, 55 from scarlet fever, 38 from diarrhoea, 31 from "fever" (principally enteric) and 17 from small pox. No fatal case of any of these diseases occurred last week in Swansea, Blackburn or Huddersfield, in the other towns they caused the lowest death rates in Derby and Birkenhead, and the highest rates in Portsmouth, Plymouth, Cardiff, Bolton and Preston. The greatest mortality from measles occurred in Hull, Cardiff, Newcastle upon Tyne, Portsmouth, Leeds, Preston and Plymouth, and whooping cough in Norwich, Burnley, Leicester, Liverpool and Manchester. The mortality from scarlet fever and from "fever" showed no marked excess in any of the large towns. The 65 deaths from diphtheria included 36 in London, 6 in Cardiff, 5 in West Ham and 4 in Preston. Five fatal cases of small pox were registered in London, 3 in Leeds, 2 in Halifax and 1 each in Derby, in Manchester and in Salford, 248 cases of this disease were under treatment in the Metropolitan Asylum Hospitals and 15 in the Highgate Small pox Hospital on Saturday last. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2030, against 1147, 1965 and 1971 on the preceding three Saturdays,

235 new cases were admitted during the week, against 195, 180 and 225 in the previous three weeks. The deaths referred to diseases of the respiratory organs in London, which had been 338 and 394 in the preceding two weeks, further rose to 421 last week, but were 56 below the corrected average. The causes of 70, or 1.7 per cent., of the deaths in the thirty three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Bristol, Oldham, Sunderland, Newcastle upon Tyne and in seven other smaller towns, the largest proportions of uncertified deaths were registered in Cardiff, Nottingham, Liverpool, Salford and Sheffield.

HEALTH OF SCOTCH TOWNS

The annual rate of mortality in the eight Scotch towns, which had been 21.2 and 23.4 per 1000 in the preceding two weeks, declined again to 22.7 during the week ending April 1st, but exceeded by 1.6 per 1000 the mean rate during the same period in the thirty three large English towns. The rates in the eight Scotch towns ranged from 15.8 in Greenock and 16.5 in Edinburgh to 25.6 in Paisley and 26.8 in Glasgow. The 639 deaths in these towns included 60 which were referred to measles, 17 to whooping cough, 8 from diarrhoea, 5 from scarlet fever, 5 from "fever" 4 from diphtheria, and 1 from small pox. In all, 100 deaths resulted from these principal zymotic diseases, against 71 and 104 in the preceding two weeks. These 100 deaths were equal to an annual rate of 3.5 per 1000, which exceeded by 1.2 the mean rate last week from the same diseases in the thirty three large English towns. The fatal cases of measles, which had been 45 and 51 in the preceding two weeks, further rose to 60 last week, of which 40 occurred in Glasgow, 10 in Dundee, and 6 in Paisley. The 17 deaths referred to whooping cough showed a slight further increase upon recent weekly numbers and included 15 in Glasgow and 2 in Edinburgh. The fatal cases of scarlet fever, which had been 6 and 10 in the preceding two weeks, declined again to 5 last week, of which 3 occurred in Glasgow. The 5 deaths referred to different forms of "fever" showed a further increase upon those recorded in recent weeks and included 2 in Glasgow. The fatal cases of diphtheria, which had been 6 and 8 in the preceding two weeks, declined to 4 last week. The death from small pox was registered in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 136 and 151 in the preceding two weeks, declined again to 138 last week, and were 20 below the number recorded in the corresponding week of last year. The causes of 48, or nearly 8 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN

The death rate in Dublin, which had increased in the preceding three weeks from 25.2 to 26.7 per 1000, further rose to 27.9 during the week ending April 1st. During the thirteen weeks of the quarter ending on Saturday last the death rate in the city averaged 28.1 per 1000, the rate for the same period being 22.0 in London and 20.6 in Edinburgh. The 187 deaths in Dublin showed an increase of 9 upon the number in the preceding week, and included 7 which were referred to "fever," 3 to diarrhoea, 2 to whooping cough, 1 to scarlet fever, 1 to diphtheria, and not one either to small pox or measles. In all, 14 deaths resulted from these principal zymotic diseases, against 12 in each of the preceding two weeks. These 14 deaths were equal to an annual rate of 2.1 per 1000, the zymotic death rate during the same period being 2.2 in London and 1.2 in Edinburgh. The deaths referred to different forms of "fever," which had been 3 and 8 in the preceding two weeks, were 7 last week. The fatal cases of whooping cough, which had been 4 and 3 in the preceding two weeks further declined to 2 last week. The 3 deaths from diarrhoea exceeded the number in any recent week. The 187 deaths registered in Dublin included 26 of infants under one year of age and 50 of persons aged upwards of sixty years, the deaths of infants showed a decline, while those of elderly persons showed a further increase upon those recorded in recent weeks. One inquest case and 2 deaths from violence were registered, and 68, or more than a third, of the deaths occurred in public institutions. The causes of 15, or more than 8 per cent., of the deaths in the city last week were not certified.

result of a collision on horseback in the riding school. The patient being examined immediately in bed, one recognised at once the characteristic appearance of the injured knee (right)—the patella obliquely rotated on its vertical axis, firmly wedged in between the condyles, its surfaces directed laterally and its edges in an antero posterior direction, in addition, one could not help noticing the marked laterally flattened appearance of the joint, the limb being extended, and an entire absence of the rounded symmetry in the general outline of the knee. The outer edge of the "cap" could be felt projecting like the rim of a plate—a very unmistakable prominence. The patient stated that at the time of the accident he felt very severe pain, but on admission to hospital there was very little pain and tenderness. With the assistance of Surgeon C G D Mosse, reduction was effected by regulated pressure and gradual extension, there being no exaggerated degree of resistance from the extensor tendon or the ligamentum patellæ. The limb was fixed in a back splint and kept absolutely at rest for ten days, an ice bag was applied, and the patient was ultimately discharged from the hospital fit for duty and with no apparent ill effect to the joint. I have not been able to ascertain whether he ever experienced a recurrence of this dislocation.

I am, Sirs, yours faithfully,
N HAY FORBES, L.R.C.P. Lond., M.R.C.S. Eng
Late Surgeon Army Medical Staff
Tunbridge Wells, April 3rd, 1893

"STRANGE INCIDENTS IN PRACTICE"

To the Editors of THE LANCET

SIRS,—I was very much struck with the article on "Strange Incidents in Practice," by Sir William Dalby, which appeared in THE LANCET of Feb 4th as a similar case of loss of speech with ability to communicate in writing came under my notice at the Colonial Hospital about five years ago. My patient was a middle aged sailor. He gave a vague history of an injury to his head on board ship. He understood everything that was said to him and was a strong and very active man. He could not speak a word and yet was able to communicate in writing without the slightest hesitation. Suspecting that he was malingering, I placed him under the influence of the A.C.E. mixture in order to ascertain if he would speak when going under or recovering from the anæsthetic. I took the precaution of placing a fellow patient in the room when the anæsthetic was given. At a certain stage in the inhalation the patient became voluble, but when he returned to his senses he was found to be still speechless. He continued to be speechless, although he was told that he had talked loudly under the influence of the anæsthetic, for about three weeks, when his speech was suddenly restored. I have met with another "strange incident" in hospital practice—viz., a fishbone in the sac of an inguinal hernia, when operating about three years ago to relieve a strangulation. I was therefore interested in finding that Mr Hutchinson has lately recorded a similar case.

I am, Sirs, yours truly,
T. H. DALBY, W.I. March 19th 1893

HENRY ALSTON

"THE TREATMENT OF HÆMORRHOIDS BY THE CLAMP AND CAUTERY"

To the Editors of THE LANCET

SIRS,—In THE LANCET of March 25th Mr H. Allingham remarks, with regard to the operation for hæmorrhoids by the clamp and cautery, that "it is at least four times as fatal as any other method of removing hæmorrhoids." This statement also occurs in the last edition of Allingham's "Diseases of the Rectum" (with the trifling variation that there the operation is stated to be six times as fatal).

During the last seven years I have seen many scores of cases of hæmorrhoids operated upon in the manner condemned by Mr H. Allingham and in no single case has either death or untoward symptom of any kind occurred. I would therefore venture to suggest to him that he should put before us both the figures and the source from which he obtained them, upon which he bases the statement that he has more than once publicly made. Until that course is adopted I for one cannot consent to look upon the fact as demonstrated. Further on in his letter he says, "Secondary hæmorrhage is likely to occur on

the separation of the sloughs caused by burning." This of course as it is put is a mere matter of opinion. I would ask Mr H. Allingham if he means to infer that, as a matter of fact, it does more frequently occur than when the ligature is used, and if so if he will quote his authority. I can hardly think that he means this inference to be drawn, as he goes on to say that "Tetanus secondary hæmorrhage are almost unknown now." Or does he mean that these terrible evils are the monopoly of the clamp and cautery? Indeed, it seems to me that the acrimony that has been imported into the debate on the relative merits of rival operations has somewhat obscured the pathological common sense of the disputants. Where the difference is from a pathological point of view between clamping the base of a pile and crushing it I have never, I regret to say, been able to see. Similarly, to declare that secondary hæmorrhage is more likely to occur from the separation of superficial sloughs after burning than from the separation of a ligature around the base of a pile is to me an exercise in pathological hair splitting of which my mind is incapable.

And now, finally, for a few facts. During the past four years it has fallen to my lot to see from 100 to 150 of Mr Henry Smith's hæmorrhoid cases both during and after the operation. Apart from the fact that none of them had a single bad symptom of any kind there were three points chiefly remarkable about them. Firstly, the extremely small amount of blood lost, so that in most cases the sheet on which the patient was lying was scarcely even soiled, secondly, the trivial degree of pain afterwards, for I have seen nearly all these patients the same evening as the operation and in only a very small proportion was any opiate required after the patient was put back to bed, and even then it was given more with the object of confining the bowels than of relieving pain, thirdly, the short time during which treatment lasted. The great majority of the patients were up and about in ten days and returned home on the fourteenth. Not half a dozen of the whole number required longer than this. As for the subsequent contraction and the other ills alluded to, Mr Henry Smith says that they are nowadays, like the excessive pain, purely imaginary. I am by no means an admirer of the "Procrustes' bed" method of treatment, at the same time I am unwilling that a method of treatment that I am convinced is in a very large number of cases entirely admirable should be so persistently decryd by those who clearly have not taken pains to make themselves intimately acquainted with it, as witness Mr H. Allingham's statement some weeks ago that Mr Smith cut off the pile and then applied the cautery, and Mr Smith's assertion that he has abandoned that practice for years in favour of simply burning it off. I am as ready to be convinced as anyone, and if the Messrs. Allingham can prove by the statistics of every case that has occurred to them, say during the last six years, that, as regards freedom from sepsis, pain, secondary hæmorrhage, subsequent contraction, and also as regards duration of treatment, the results obtained by the ligature or the crushing machine are better than those obtained by the clamp and cautery, they will at least have converted me.

I am, Sirs, yours faithfully,
F F BURGHARD, M.S. LOND., F.R.C.S. ENG
Weymouth street W

"OCULO-MOTOR SYMPTOMS IN ORGANIC NERVE DISEASE"

To the Editors of THE LANCET

SIRS,—In a leading article of April 1st you remark "If a case of total ophthalmoplegia were observed in which the frontalis and orbicularis palpebrarum were affected whilst the lower facial muscles escaped, the clinical evidence for the hypothesis (viz. that these two muscles are centrally innervated from the oculo-motor nucleus) would be fairly complete. Dr Andrew Turner has not yet seen or heard of such a case." Such a case has recently been under my care, descended to me, together with his beds at the London Hospital, from the late Dr James Anderson. Knowing Dr Hughlings Jackson's interest in nervous disease, I have transferred the case to his care, but I have no doubt that Dr Turner could see it if he wished. I am in hopes that Dr Jackson will publish the case in full and consequently refrain from doing so myself without consulting him on the subject.

I am, Sirs, yours faithfully,
Christopher street, E.C., April 4th, 1893. FRED J. SMITH.

more satisfactory if the inventor had himself stood up to be fired at, and as no one, even in that case, would be emulous of firing at such a mark, it has been determined to test the properties of the invention by clothing pigs in it and shooting at them. There does not seem to be any doubt, according to the accounts of an expert, Captain Ziegler, that modern rifle bullets are completely stopped by the newly discovered material at a distance of 200 yards, but we have not yet received any particulars as to its weight and cost, or how it is to be worn, or whether it is hot and uncomfortable to wear or not. We shall soon hear, no doubt, what has been the result of the numerous experimental trials that have been instituted with the Lebel and Mannlicher rifles, and until these are published it may be well to reserve our judgment as to what is to be the practical outcome of the alleged invention of a bullet-proof fabric. Meanwhile, Herr Dowe is no longer alone in the field, for he has a competitor—also of Mannheim—named Reidels, and another in the person of an Austrian engineer named Sarneo. The invention is supposed to consist of a kind of light mail and hemp woven together. If it be heavy or at all cumbersome and likely to impede or interfere with the soldier's movements or comfort even, its use will obviously be of a limited kind, and we do not yet precisely know, as we have said, what might be the effect of a rifle bullet projected with enormous velocity when stopped by a resistant structure, as regards shock to the nervous system, bruising and rupture of internal organs and structures of the body generally. The great penetration of a bullet is caused by its high velocity, but the actual impact-effect of bullets of very small calibre on living tissues has yet to be determined. It is possible, if the alleged properties of these newly invented garments be experimentally proved to be well founded and if their power of resistance to the crushing effect of large and heavy projectiles be also established, that a new material has been obtained for defensive purposes which will altogether alter the aspects of warfare, but, so far as anything is actually known at present, there is much room for speculation and conjecture and but little for assertion based on knowledge and ascertained fact.

SIR JOSEPH FAYRER.

Our service contemporary, the *Army and Navy Gazette*, has an article on the career and services of this officer—whom we are glad to congratulate on being restored to good health and strength after his late illness—advocating that Sir Joseph Fayrer's services should be rewarded, at or before the end of his appointment as President of the Indian Medical Board, by a G.C.S.I. or a K.C.B. Sir Joseph Fayrer originally served in the Navy as an assistant surgeon before passing into the military service. He was at the siege of Palermo and that of Rome in 1847-48 and subsequently in the Burmese War and the Indian Mutiny and siege of Lucknow. Sir Henry Lawrence died in what is historically known as "Fayrer's House" at Lucknow. Sir Joseph Fayrer accompanied the Duke of Edinburgh and subsequently the Prince of Wales on their respective tours through India, and professionally distinguished himself in hospital and other work at Calcutta, so that his career has, at any rate, been sufficiently varied and not wanting in incident.

Correspondence.

"Audi alteram partem."

THE MEDICAL REGISTER

To the Editors of THE LANCET

SIRS,—I desire to draw attention to the difference in price which exists between the Medical Register and the Monthly Army List. The first-named book, the widespread diffusion of which is of real importance to the public in guarding them against deception, costs 6s. The Army and Navy Lists can be purchased for 1s. 6d. each. I propose that in addition to the existing large Register, a smaller and more portable edition of it be published quarterly, bound in paper like the Monthly Army and Navy List, and sold at a similar price. Such a book could be annually distributed to a four times greater extent to public officials than the present portly and unportable volume. It could be found in the minor registration offices and the minor police stations. 2 I

desire to point out the need of a local index to the Register. One long alphabetical register of the names of all the doctors in the three kingdoms exists, it is true, but one cannot verify names of doctors in localities without a local index, say, of country county or borough. I am told that the present form of the Register is that laid down by the Act governing registration. Doubtless this is so, but an index is an essential part of any book, and a local index seems to be needful in a book which contains in one long roll the names of the medical men of the three kingdoms and many hundred others practising either officially or privately in countries outside the British Isles. An Army List, with the names of all the officers in one long alphabetical list, would be a dismal and impracticable volume, the regimental grouping and general index solve the difficulty. In the Medical Register a local index would do a similar duty. If I wish to send a patient to a distant town or health resort, why should not the official register give me a borough or county list of the doctors living there? Surely Parliament never meant to veto such a provision. If it did the error needs rectification.

A cheap, widely diffused, frequently corrected register, showing deaths, expulsions, suspensions and local removal of medical men is one of the safeguards needed in a profession which is overcrowded and yet much overworked, which is doing enormous service for the State without recognition or reward by the State, and where unqualified men and adventurers seem to exist absolutely free from check.

I am, Sirs, yours faithfully,

Woolwich, April 4th, 1892.

GEORGE EYATT, M.D.

RICKETS IN AUSTRALIA

To the Editors of THE LANCET

SIRS,—A few years back you did me the favour to publish in THE LANCET some conclusions at which I had arrived, from clinical observations extending over many years, on the chief cause of rickets in this country. It appeared to me quite clear that the common idea that rickets is due to errors of diet is not supported by clinical experience. I have seen no reason to change the opinions I put forward then, but rather to feel more confirmed in them by subsequent experiences. The object of this letter, however, is not to draw attention to the conclusions above alluded to, but to encourage an independent inquiry into this subject by those who are practising in the Australian colonies. The fact that rickets is a malady that is as rare in its occurrence in those colonies as it is common with us has long been familiar to those who have been able to make comparisons, and the remarks made by Dr J. C. Verco of Adelaide at the Intercolonial Medical Congress of Australia in 1887 prove how deeply impressed he was with the singular absence of rickets in Australia and how fully he appreciated the inadequacy of the common theories which pretend to explain the cause of the malady. "There is some secret reason," Dr Verco remarked, "for this that we have not yet discovered." A few days ago I was favoured with a copy of the second edition of a small work on "Prescribing and Treatment for Infants and Children," written by Mr. Philip E. Muskett of Sydney, and special attention is directed by him to the subject of rickets in Australia. After reading Mr. Muskett's remarks I hope that you will allow me, through the medium of THE LANCET, to suggest to those who may feel disposed to investigate the question of the etiology of rickets in Australia to liberate their minds from the influence of any theories as to their causation and to be contented to observe fully, record accurately and attempt to prove nothing until they have collected their facts. What we want are clinical facts—not opinions.

I am, Sirs, yours truly,

ROBERT LEE.

April 3rd, 1893.

"DISLOCATION OF THE PATELLA 'EDGEWAYS'"

To the Editors of THE LANCET

SIRS,—Advertising to your correspondent's letter in THE LANCET of April 1st, in which he reports an instance of a rare and interesting dislocation of the patella, namely, dislocation by semi rotation ("edgewise"), I am reminded of an almost parallel case which came under my care whilst serving on the medical staff of the Army at Shorncliffe. In 1889 a healthy young cavalryman was brought to the station hospital with a report that he had "broken his knee," the

name the remaining unnamed ward in the hospital the "MacLagan Ward," in memory of the late Dr P M MacLagan.

Mr Mitchell of the Elswick Works, Newcastle, has given a further sum towards the extension and improvement of the University buildings, Aberdeen. The total of Mr Mitchell's donations amounts to £20,000

Newcastle-on Tyne, April 5th

SCOTLAND

(FROM OUR OWN CORRESPONDENT)

Medical Graduation

THE spring examinations in medicine at Aberdeen are finished, and the results have been announced. A large number of candidates presented themselves. Three gentlemen graduated M.D., and over forty passed the examinations for the M.B. and C.M. degrees. One gentleman took the diploma in Public Health, whilst the B.Sc. degree was conferred on no one. Messrs Ashley W Macintosh, M.A. and John Matheson, M.A., passed the M.B. examination "with highest honours," whilst Messrs Alex. Brown, M.A., B.Sc., and Alfred A. Moore graduated "with honourable distinction." The University gold medals were gained by Mr Alexander Don, M.A. (Fife Jameson Memorial in Anatomy and Shepherd Memorial for Systematic and Practical Surgery), Mr Robert Turner, M.A. (Keith for Systematic and Clinical Surgery), and Mr Ashley W Macintosh, M.A. (Matthews Duncan in Obstetrics). At the graduation ceremony Principal Sir William Geddes made reference to the munificence of Mr Charles Mitchell of Newcastle in presenting the University with £20,000 to aid the Building and Extension Fund.

The Medical Education of Women

For the last seven years medical education has been provided for women in Edinburgh where the licences of the Conjoint Scottish Colleges of Physicians and Surgeons have been obtainable by them. Now, however they have received a further concession to their demand for opportunity to secure access to the higher grade of the profession—viz., the M.D. The University Court of St. Andrews have acceded to an application lately made to them, and have, in virtue of the recently enacted ordinances, recognised the lecturers of that school as "lecturers specially appointed" by the University for the instruction of women in medicine. By this act the University have virtually constituted the school an outlying section of St. Andrews University and have empowered the students of that school to matriculate and to present themselves for examination for medical degrees after fulfilling a complete five years' curriculum of study. Moreover by the association of the College with the Leith Hospital ample clinical instruction is also secured.

April 5th.

IRELAND

(FROM OUR OWN CORRESPONDENT)

Monkstown Hospital

THE new buildings are now entirely free from debt, and the increased accommodation provided thereby has been fully taken advantage of and has enabled the staff through out the past year to keep pace with the increased demand for admission. The total amount of contributions received during the year was £1575 9s 6d, of which the sum of £130 was collected by ladies.

Health of Ireland December Quarter

During the last quarter of 1892 the births registered numbered 23,686 or 20.4 per cent., and the deaths 19,043 or 16.4 per cent. The birth rate was 1.0 per cent. under the average rate for the corresponding quarter of the past ten years, and the death rate was 0.3 per cent. below the average. The public health, measured by the statistics of mortality during the quarter, was satisfactory. The total deaths from the principal zymotic diseases were 1022, equal to an annual rate of 0.9 per 1000 living. No deaths from small pox were registered. Measles caused 125 deaths, against 232 for the preceding three months, scarlet fever, 105 deaths, or an increase of 18, typhus fever, 89, or 31 in excess, typhoid

fever, 184, against 153, whilst the mortality from whooping-cough was far below the average. Compared with the corresponding quarter of 1891 there was an increase of 84 in the average number of workhouse inmates on Saturdays during the quarter, but a decrease of 1908, or 3.2 per cent., in the average number of persons who received out-door relief.

The Water supply of Corl

Mr Donovan, medical superintendent officer of health, has directed the attention of the Public Health Committee to the contamination of the River Lee, which supplies the city. He states that it is most objectionable to have a dirty stream continuously flowing into the river and discolouring it for several yards in extent, more especially with an open sluice below, through which it more than likely finds its way to the reservoirs without being filtered. Mr Donovan's report has been referred to the Waterworks Committee.

Home for Protestant Incurables, Corl

This institution, which has now been in operation for twenty one years, has proved most successful for the purposes for which it was established. The Home is beautifully situated near Cork and supplies a want which is not met by any of the hospitals which abound in the adjoining city—it is at once a home for treatment and a hospital for the dying. The total receipts for the year were £1365 3s 3d, of which the sum of £59 11s 8d was received from pay patients. The capital invested now amounts to £11,500. The position of honorary assistant visiting physician and surgeon, vacant by the resignation of Dr Gibson, has been filled by the appointment of Dr Norman Townsend.

Mr M J Kelly of Castledermot has been placed on the Commission of the Peace for the county of Kildare.

The death is reported of Mr Robert Sanderson, M.D., M.Ch., which took place at Bella Vista, Edenderry, on the 3rd inst. Deceased was aged seventy seven.

April 4th.

PARIS

(FROM OUR OWN CORRESPONDENT)

French Surgical Congress

THE seventh session of this Congress was inaugurated on Monday, the 3rd inst., in the large amphitheatre of the Faculty of Medicine, under the presidency of Professor Lannelongue and the vice presidency of Professor Tillaux, the general arrangements being, as usual, supervised by Dr Pozza, the secretary. A large gathering of representative surgeons was present, amongst them I noticed MM Verneuil (now Honorary Professor of the Faculty of Paris), Baron Larrey, Chauvel (of the Val de Grâce Military School), Heydenreich (Nancy), Olier (Lyons), Boekel (Strasbourg) Stevenson (delegate of the British Government), Sir W Mac Cormac, Reverdin (Geneva), Roux (Lausanne), Jacobs and Lavissé (Brussels) Djemil Bey, Professor of the Imperial Faculty of Medicine of Constantinople, &c. The *clou* of the meeting was the inaugural address of the President, Professor Lannelongue, who, after having made a feeling reference to the scientific services of the late Professor Trélat, drew a striking comparison between the surgery of to-day and that of pre-Listerian times, when timidity on the part of the surgeon and scepticism on that of the public brought about the loss of thousands of valuable lives which the resources of modern surgery would have saved. "C'est que la chirurgie n'est plus à la merci d'un conseil de famille, elle n'est même plus mineure. Elle vient d'entrer dans sa majorité. Une confiance renaissante a fait taire le doute, et l'art, dégagé de toute pensée décevante, servi par tout ce qu'une jeunesse pleine de vie peut avoir de foi, a acquis une puissance d'expansion bien faite pour être l'objet de nos méditations." He recalled the words of the preface to Boyer's work on Surgery (third edition) published at the beginning of the century (1822). "La chirurgie a fait de nos jours les plus grands progrès et semble avoir atteint, ou peu s'en faut, le plus haut degré de perfection dont elle paraisse susceptible." What would Boyer say were he now alive? Modern surgeons said M Lannelongue in conclusion, know too much to fall into a like error. Fresh conquests lie within our grasp, new countries remain unexplored beyond the frontier already reached. The actual business of the Congress was then proceeded with, the following being a list of papers read: Dr Bouffin, of Nantes. Contusion of the Abdomen from a

THE CONDITION OF THE TEETH AS AN INDEX OF THE GENERAL STATE OF HEALTH

To the Editors of THE LANCET

SIRS,—The following editorial note appears in the last issue of the *British Journal of Dental Science*—

"In the House of Commons Mr S Smith asked the Postmaster General whether it was a compulsory rule that candidates for situations, after passing the Civil Service examinations, had to comply with the order of the medical officer to have such teeth extracted as he might require, sometimes as many as six or seven, without any guarantee that they would be then accepted, and whether without the extraction of such teeth they were rejected. Mr A. Morley said the medical officers were instructed to report officially with regard to the sight, the hearing and the teeth of candidates for appointment, *the state of the teeth being regarded as an indication of the state of the health*." [The italics are mine.]

There is material for extended comment in the above extract, but at the present moment I only wish to call attention to the italicised words, which, if literally interpreted, contain an error of no small importance. The condition of the teeth is not an index of the general health or powers of endurance of the individual. Every observant dentist is familiar with the fact that many persons of mature years who perhaps have never been in the enjoyment of perfect health and whose powers of endurance are comparatively low have nevertheless excellent teeth. The reverse is also true, many otherwise vigorous and healthy people having teeth of poor structure, which decay rapidly. It is of course true that the early loss of the teeth may lead to serious impairment of the health, but this is an avoidable evil and has no direct bearing upon the subject under consideration. If proper attention to the care of the teeth and efficient dentistry could be secured many candidates for Civil Service examinations having poor teeth might, on the whole, possess better qualifications than some of their successful rivals.

I am, Sirs, yours truly,

J. LEON WILLIAMS, D.D.S., L.D.S.

Bruton street, W., April 4th, 1893.

AFRICAN HÆMOGLOBINURIC FEVER

To the Editors of THE LANCET

SIRS,—Will you allow me to correct a misstatement of the remarks made by me on the above subject which occurs in the report of the meeting of the Epidemiological Society in THE LANCET of April 1st? I did not agree with Dr Manson "as to the non malarial nature of hæmoglobinuric fever." On the contrary, I have lately written a thesis to prove that this special form of fever is simply one of the manifestations of African malarial fever. I am not surprised that those who are not familiar with the forms of malarial fever as found in Africa should regard the fever under discussion as belonging to an entirely different class, but I believe that a knowledge of these gained on the spot would point to its obvious connection.

I am, Sirs, yours faithfully,

CHARLES F. HARFORD-BATTERSBY, M.D. Cantab

April 4th, 1893.

THE CHLOROFORM QUESTION

To the Editors of THE LANCET

SIRS,—The laboriously compiled report of THE LANCET Commission on Chloroform Administration published in your recent issues concludes that "the sequel shows that the method employed had very little influence in determining the result." This conclusion was *a priori* probable, seeing that the principle of administration was in all cases, with the exception of Junker's, the same. In all the chloroform was diluted by adding the air to the narcotic vapour on its passage to the lungs. It is obvious that an exact and constant dilution under such circumstances must be impossible. This fact may perhaps account for and explain the capricious action ascribed to the chloroform, in reality due to the uncertain method of administration. I have never yet been able to understand why the administration of chloroform from a towel should have been called the "open method." Perhaps it was because, there being a space left between the patient's mouth and the cloth, it was thought that plenty of fresh air would enter with the vapour. If so, then the superior

density of the chloroform vapour must have been lost sight of. As a matter of fact, it makes very little difference in a quiet atmosphere whether the cloth is held two, four or even six inches from the face. The vapour drops down in a more or less undiluted condition, often choking the patient, who thus finds himself deprived of his normal supply of oxygen. If, on the other hand, the cloth is held lower down or more to one side than usual, or if the room be draughty, the chances are that the patient only gets an occasional whiff of the anæsthetic. The first might be called the "closed" method and the latter the "open" method, but both terms are meaningless. The gist of the question is whether the chloroform is being administered from a controllable or from an uncontrollable reservoir. The only true open method is that in which there is absolutely no impediment to respiration, where the pure air on its passage into the lungs is diluted with a stated and controllable quantity of the vapour, the amount and strength of which can be graduated to suit the individual requirements. Inhalers answering this description have for some time past been on the market, and it is not until their use becomes general that we shall be enabled to ascertain exactly the action of the anæsthetic under given circumstances.

I am, Sirs, yours truly,

April 4th, 1893

SENEX.

** Our correspondent is mistaken in his assumption that the report of our Commission is concluded. Much yet remains to be published and we hope to continue the report next week.—ED. L.

NORTHERN COUNTIES NOTES

(FROM OUR OWN CORRESPONDENT)

Newcastle Nurses' Home and Training School.

DR PHILLIPSON presided at the annual meeting held last week of the Nurses' Home and Training School. The report showed that the staff consisted of sixty trained nurses and ten probationers, and that they had attended in all 586 cases. He referred in high terms to the valuable services of the matron and to the ability and conduct of the nurses, showing that the institution is an acquisition to the city and district.

Small-pox

There have been no further cases of small pox at Carlisle, but cases are still reported at Workington, Whitehaven and South Shields. At South Shields placards have been issued calling attention to vaccination, free stations for which have been opened in various parts of the borough.

Newcastle Natural History Museum

Several important additions have been recently made to this well known museum, including a fine specimen of the ruffed or Macqueen's bustard, as it is named in England, a native of Persia, Afghanistan, Western India &c., which, strange to say, was found feeding in a field near the coast at Marske-by-the-Sea last October, when it was easily approached and shot. This is the second specimen which has been recorded as taken in England. The first specimen was killed in Lincolnshire in October, 1847, and is now preserved in the York Museum. The Newcastle Museum has also received two kakas or brown nestor parrots, closely related to the keas, which have in recent years become one of the pests of the New Zealand sheep farmers, having acquired, by feeding on the offal at the sheep stations, a taste for mutton fat, to procure which they attack and destroy annually large numbers of sheep.

Scarborough

At a special meeting of the Scarborough Town Council held last week it was resolved to purchase a field about half a mile from the town at a cost of £1200 for the erection of a permanent hospital for infectious diseases, but the situation is outside the borough boundary and is therefore strongly objected to by the rural sanitary authority. The Seaboard Harbour local board have also decided to build a permanent infectious diseases hospital for their town.

Berwick Infirmary and Dispensary

At a meeting of the governors of the Berwick Infirmary and Dispensary held last week it was stated that 400 patients had been attended to and that there was a satisfactory balance in hand of over £100. At the same meeting it was agreed to

medical students in this city is close upon 600. With us, as with you, the complaint is, "the profession is overstocked."

New Hospitals

In the fall of last year a new hospital was opened in Toronto under the auspices of the Roman Catholic Church. St. Michael's Hospital is under the care of a Mother Superior, with a staff of religious and professional nurses. In Montreal progress is being made in the completion of the Victoria Hospital, additions have been made to the General Hospital and during the past month a wealthy citizen has donated some \$30,000 to establish a convalescent hospital for the city.

Miscellaneous

The *Ontario Medical Journal* is the last addition to the list of medical publications. The publishers receive a subsidy of \$600 from the College of Physicians and Surgeons per annum, furnishing each member with a copy monthly.

The medical men attached to our militia have formed an association with the object of attaining their proper status and rank and the discussion of subjects more particularly interesting to themselves. The first president is Surgeon F. W. Strange of Toronto.

The Royal Medical College, Kingston, which for so many years has been a separate institution, has joined its fortunes with Queen's University as its medical department.

The Toronto Clinical Society is the latest addition to our medical societies: the members being known as Fellows and classed as resident, non resident and corresponding. The president is Dr. J. Algernon Temple.

March 4th.

AUSTRALIA

(FROM OUR OWN CORRESPONDENT)

The Management of Australian Hospitals

THE hospital question has assumed an acute stage in our two principal cities. The two large hospitals in Melbourne are unable to pay their way: the Sydney Hospital is deeply in debt and the Prince Alfred Hospital Sydney is, according to a recent statement of Sir Alfred Roberts in an "alarmingly state of bankruptcy." The hospital at Broken Hill has no funds and the committee threaten to close it. The crisis has been brought about by the falling off of the voluntary subscriptions caused by the general depression in trade which is passing over the Australias. Australian hospitals are in the main State institutions. Parliament votes the money to build them and they are supported largely by State grants. The system in vogue in most of the colonies provides that, once built and equipped, the hospital is to be supported by voluntary contributions and aided by a State subsidy equal to the amount of voluntary contribution. The large metropolitan hospitals are treated on a somewhat different plan. They receive a pound per pound State subsidy on their voluntary contributions and in addition, a substantial sum is yearly awarded by Parliament, they are, moreover, paid a weekly allowance for all patients recommended by the Government medical officers. This special treatment of the large metropolitan hospitals is necessitated by reason of the sloth and jetsam of the suffering humanity of the colonies being swept into the great cities. Of late, owing to the general mercantile depression, the voluntary subscriptions have enormously decreased, and as a consequence the State subsidies have not been paid. The upset in trade has on the other hand thrown large numbers of workers out of employment and destitution and disease have correspondingly increased. Thus at the very time when the heaviest demands are being made on the resources of the hospitals the directors find themselves compelled to shut up their wards and refuse admittance to the suffering poor.

The Melbourne Hospital has an overdraft of £20,000 at its bankers, the wards are full, the creditors are pressing and there is no immediate prospect of its being able to pay its way. The committee having been brought face to face with this deplorable condition have been inquiring into their expenditure, and although no special report has been made it is understood that there have been found many reasons for retrenching. The Sydney Hospital is in a similar position. A few years ago Parliament came to the assistance of the directors and paid off a large overdraft, and now they find themselves again in the mire

with an overdraft of £15,000 hanging round their necks. Of late years there has apparently been a great want of economy, and at a recent meeting of the directors the opinion was expressed that the medical staff were to blame "for treating their patients too well" and for ordering too many "extras." It has been suggested that the large increase in the cost of patients is due to the heavy protective tariffs recently imposed in New South Wales, but a close examination of the matter shows that that is not the only cause. This point is well demonstrated by comparing the annual cost of patients in the Sydney Hospital with that of the Newcastle Hospital. This is the largest provincial hospital in New South Wales. It supplies the wants of a mining, manufacturing agricultural and shipping community of seventy or eighty thousand people and is not excelled by any Australian hospital in efficiency and general results. A return prepared by the late medical superintendent shows that at that hospital the annual cost per patient in 1887 was £64 18s 3d and in 1892 £70 15s 4d whilst in the Sydney Hospital the same item was represented by £25 10s 9d in 1888, and by £32 13s 3d in 1892. The Sydney Hospital directors have appointed a financial sub-committee to investigate the state of affairs. In the meantime they have set about retrenching by cutting down the salaries of their principal officers. Hitherto the medical superintendent received £500 a year and he was responsible for the efficient and economic working of the institution. The committee's idea of retrenchment is manifestly nebulous. They appear to think that by reducing their chief administrative officer's salary to £300 a year and by appointing—as they must at that salary—a man who will have the status of a senior house surgeon they are making a proper reduction in their large expenditure. With a fairly large experience of hospital management I venture the opinion that the first step towards economy and efficient administration should be the appointment of a resident medical superintendent with large powers at a salary more nearly approaching £1000 than £500 a year. It will be interesting to watch this new departure at the Sydney Hospital. Two other hospitals that are in great financial straits are the Alfred Hospital at Melbourne and the Prince Alfred Hospital at Sydney. The directors of the Melbourne institution are so deeply in debt that they have had to close nearly half of the free beds and to run the wards on the paying system. There also the medical staff are supposed to be in some way or other the cause of the extravagance, and the directors at a recent meeting passed a special resolution asking the honorary medical officers to assist them in economising. The resolution expressly called attention to the large quantity of stimulants used.

Obituary.

ARTHUR J. CRIBB, M.D. LOND., M.R.C.S. ENG., L.S.A., HIGHBURY.

THE death of Dr. Cribb, at the comparatively early age of fifty-eight, removes from Highbury one of its best practitioners, well known to the profession of London far beyond his immediate sphere of practice. He had been in practice in Islington for over thirty years, first as the partner of Mr. Macrae of Compton terrace, he himself then living at Cloudesley terrace, Liverpool road, thereafter removing to Compton terrace and then to Highbury place. After the death of Mr. Macrae he was joined in partnership by Mr. Malcolm Morris who since then has devoted himself to another branch of practice. On the dissolution of this arrangement he took into partnership Dr. Phelps, who has continued in the practice till the present time.

The parish of Islington, one of the largest parishes in England, has grown much in the time covered by Dr. Cribb's active life, and his practice extended to all parts of it and beyond. His health, especially for the last fifteen years, was liable to grave and long interruptions. But this circumstance only seemed to call out the intense energy of his character and as soon as his attacks of illness were over sufficiently to let him step into his carriage he was amongst his patients again. Large practice done under such conditions for thirty years is itself a heroic achievement under which ordinary men succumb very quickly. Dr. Cribb was a graduate of the University of London and used to trace some of

Kick of a Horse, Intestino-Peritoneal Septicæmia, Indications for Operative Treatment. Dr Panné (Nevers). A series of Seven Tarsectomies for Equino varus Dr Reynier (Paris) Supporting Hydatid Cyst with Concomitant Peritonitis, Laparotomy, Recovery Dr Martel (St. Malo) Stalk and Ear of Corn in the Male Bladder, Successful Suprapubic Lithotomy, Presentation of the Extracted Foreign Body Dr Tuffier (Paris) Remote Results of Renal Surgery Dr Fôvrier (Nancy) Resection of the Superior Maxillary Nerve and Meckel's Ganglion by a Temporal Incision for Obstinate Neuralgia of twenty-one years' standing and localised to the second division of the fifth pair. The proceedings of the Congress will be continued every day up to Saturday next inclusively, morning and afternoon sittings being fixed for 9 A.M. and 2 P.M. respectively

The Frequency of Arterial Degeneration amongst British Soldiers and Sailors its Cause

The common occurrence of aneurysms of the large arteries in the ranks of the British army and navy has formed the theme of innumerable communications. Thus in 114 post mortem examinations conducted at Netley by Davidson atheromatous changes were noted in 22, no fewer than 17 of these subjects having had syphilis. Of 78 non syphilitic subjects only 4 presented atheromatous degeneration. Another observer, Welch,¹ arrives at the conclusion that syphilis is to be credited with the production of the aortic aneurysms so often to be seen in barrack hospitals. Most British writers agree with Welch and Davidson in holding syphilis, together with alcoholism, responsible for aortic aneurysms. In a lecture recently delivered by Dr Lancereaux at the Hôtel Dieu, that pathologist traverses these conclusions, and remarks, in reference to Welch's statement, that in sixty-four of his hundred cases of aneurysms of the aorta the first part of the arch was affected, that the lesion was more common amongst men who had passed some time in foreign service, and that the arterial mischief is probably due to malaria and not to alcoholism or syphilis. For many years past M. Lancereaux has taught that the syphilitic virus manifests a special predilection for medium sized arteries provided with lymphatic sheaths (more especially the cerebro-spinal arteries), whilst the larger vessels, such as the aorta and its principal branches, are generally spared. When in a young syphilitic subject the aorta presents a dilatation *en cul-de-sac*, and the lesion is circumscribed within narrow limits, its syphilitic origin may be admitted, but M. Lancereaux believes that the majority of aortic aneurysms, wanting as they are in the above characteristics, are either due to generalised arterio-sclerosis or to malarial influences (*aortite en plaques*).

An Undescribed Cause of Dystocia

In a paper appearing in the *Loire Médicale* Dr Blanc calls attention to a cause of dystocia hitherto unmentioned in treatises on midwifery. The cause resides in the abnormal softness of the fetal head from arrest of ossification. The practitioner is called to a case where the normal conformation of the pelvis and the equally normal development of the foetus promise, with the coöperation of good and regular pains, a speedy delivery, but the head makes no progress, uterine inertia supervenes and instrumental aid is necessary to effect delivery. In these cases the incompletely ossified head can be felt by the exploring finger to present an abnormal softness of the bones, parchment crepitation being yielded on pressure, the fontanelles are unusually large and the sutures are abnormally wide. The practitioner has to deal with a soft head (*tête molle*). Irregularity of descent, flexion &c., are the result, and the resistance of the perineal floor is not overcome as by a head possessing the usual firmness. As soon as the diagnosis is made recourse must be had to the forceps.

Congress of the Aliens of France and of French speaking Countries

The annual meeting of this Association will be held at La Rochelle from Aug 1st to 6th. The special subjects of discussion will be Auto-intoxications in Mental Affections and False Evidence by Lunatics in Courts of Justice.

A New Treatment of Area (Alopecia Areata)

In France the above disease is known by the name of *pelade* and its parasitic origin is pretty generally accepted. Dr Pye Smith opines that many of these cases of *pelade* are in reality examples of ringworm in its later stages. However

that may be, the practitioner will be glad to be made acquainted with the most recent treatment in vogue in Dr Hallopeau's wards at St. Louis Hospital. When the affection is limited in extent rapid cure is obtained by repeated applications of cantharides solution with daily use of a 90 per cent. carbolic lotion. Where the disease is more diffused (all the hairy parts of the body or the entire scalp) the following lotion gives good results. Alcohol, 100 grammes, essence of turpentine and camphor, of each 20 grammes, corrosive sublimate, 10 centigrammes. Local patches have been successfully treated by M. Hallopeau by the application of essence of wintergreen, which produces no irritation or pain.

April 4th

BERLIN

(FROM OUR OWN CORRESPONDENT)

Congress of German Hygienists

A CONGRESS of German Hygienists met at Dresden on March 24th. At the first sitting Dr Sturm of Berlin spoke on the nature of personal predisposition and its relation to place and time. He declared the comma bacillus to be a mere play thing, and the part it plays in the etiology of cholera as but small. It produced an effect only in cases of personal predisposition. At the second sitting it was resolved to lay the draft of a "System of Public Hygiene" before the Imperial Government. The Congress also empowered one of its members to prepare a manual of hygiene, to be published at the instance of the Hygienists' League, with a list of the names of its members. There was also a long discussion of the Imperial Epidemic Bill, which was severely criticised. The proposals of the Congress for its modification, including a protest against all measures of disinfection except in the case of dirty linen, are to be forwarded to the German Government. The Congress also expressed the opinion that, if properly treated, cholera is not more dangerous than typhus fever or pneumonia. The Congress relied for the protection of the population against infectious diseases and epidemics upon the introduction of a new system of personal and public hygiene, including the propagation of the knowledge of the laws of health, with a view to the annihilation of the most important cause of disease in individual predisposition. To this end the Congress appointed a committee to draw up a memorial to the Reichstag and the Federal Council. At the same sitting Dr Hübner of Leipzig stated that he had applied to Count Zedlitz, the last Prussian Minister of ecclesiastical, educational, and medical affairs, with the offer to prove the curability of small pox, but he had been referred to Professor Koch's experimental hospital, from which he had received the answer that the arrangements of the hospital did not allow Professor Koch to pay regard to individual opinions.

The International Sanitary Conference

A considerable number of the delegates to the International Sanitary Conference, now deliberating at Dresden, went last week with Professor Koch to see the Nietleben Asylum, near Halle, the scene of a recent cholera epidemic.

In Ophthalmological Society

An Ophthalmological Society was founded here lately.

Professor Karl Friedrich Rammelsberg, the oldest of the German chemists of mark, received a large number of congratulatory letters and telegrams on the occasion of his eightieth birthday last Saturday.

Dr David Wiener, Privy Counsellor on Sanitary Affairs, died the other day at Graudenz, aged sixty-seven. He enjoyed a considerable reputation as a writer on forensic medicine and matters of sanitary police. He wrote a manual of the medical legislation of the German Empire and of the States of which it consists, a collection of medico-legal opinions and contributed to the *German Medical Weekly* and the *Periodical for Medical Officials*.

April 3rd.

CANADA

(FROM OUR OWN CORRESPONDENT)

Numerical Increase in the Profession

THE several teaching bodies report the usual influx of freshmen, the McGill class numbering 110, whilst the total of

¹ On Aortic Aneurysm in the Army, Med. Chir. Trans., 1874.

Women Candidates—Kate Isabel Clatterback, Ldith Ellen Goodrich, Mary Philip Graham, Sarah Kemp, Elizabeth Dorothea Lyness, Judge Speirs Maclean, Mary Rose Riddall, Roberta Henrietta M. Stewart.

The following have passed the under noted portions of the first professional examination for the new degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.)—

1. In *Anatomy and Physics*—George MacLellan Blair, William Adam Burns, John Laird Simpson, Matthew Logan Taylor.
 2. In *Anatomy and Chemistry*—Andrew James Smith.
 3. In *Zoology and Physics*—Robert Carswell M.A., Walter S. Noble Findlay M.A., Donald M. Kinlay, James M. Queen, M.A., James M. White, Robert White.
 4. In *Zoology and Chemistry*—David Louisa Cairns, Francis James Charteris, James Duncan Cochran, Samuel Macfarlane Sloan.
 5. In *Physics and Chemistry*—Douglas Swan.
 6. In *Dental*—Alexander Smith, Allan Murdoch Macdonald, William Wylie.
 7. In *Zoology*—James Strang.
- Women Candidates**—In *Physics and Chemistry*—Mary Gardner, Jessie Hawkesworth Smith.

The following have passed the second professional examination for the degrees of Bachelor of Medicine (M.B.) and Master in Surgery (C.M.)—

Robert Aitkenhead, Arthur Roband Anderson, John James Anderson, Thomas Angus Alexander Blair, James Boyd, William Burns, James Souter Christie, Allen Aiken Clark, James Donaldson, John Sharp Douglas, John Drummond, Richard John Edwards, Wm. Bickerton Edwards, Samuel Enclish, Daniel Ferguson, Albert Alfred Finkelstein, James Forrester, Andrew Fleming Galloway, John Guy, James Henry Francis Robert Hill, John Affleck Hope, Albert Bures Hughes, John Hunter, David Kerr, William James Kerr, William Henry Lang, Arthur Lawton, David Lewis, James Duncan Lore, James William Otto van Millingen, John Morton, George Bain Murdoch, John Murray, Daniel M. Coll, William M. Cormick, Donald MacDonald, John M. Laws, Misses Neil MacLay, Samuel M. Leas, Farquhar Macrae, Archibald Russell, Oliver Wallace Ainsworth, Pride Daniel Richmond, Alexander Shearer, Hugh Stevenson, James Stewart, Ernest Frederick Docetti Walker, James Wells.

Women Candidates—Alice Lilian Louisa Cumming, Margaret Cochran Dewar, Marion Gilchrist.

SCHOOL OF PHYSIC, TRINITY COLLEGE, DUBLIN—First Examination in Medicine: First prize, David F. Walker, second prize, Michael J. Smith, first honours, William S. Haughton and R. Travers Smith.

MEDICAL MAGISTRATE—The Lord Chancellor, on the recommendation of Lord Rothchild, has appointed Mr. S. Osborn, F.R.C.S., a magistrate for the county of Bucks.

TYPHOID FEVER AT MOSTYN—Some alarm has been created by an outbreak of typhoid fever at Mostyn in a district of which at least eleven cases have already been reported. Energetic measures have, under the advice of Mr. James Williams, medical officer of health, been at once adopted.

ROYAL BRITISH NURSES' ASSOCIATION—On the 5th inst. a meeting was held at Edinburgh for the purpose of receiving a deputation from this Association in favour of a proposition to establish at Edinburgh a branch of the society. Dr. Bezy Thorne and Dr. Bedford Fenwick spoke on behalf of the Association and explained its objects. On the motion of Dr. Douglas MacLagan, seconded by Dr. Underhill, it was resolved that a Scottish branch of the Association be formed at Edinburgh. Some discussion arose on the question as to whether one year's training in hospital, with a subsequent connexion of two years in a training institution, should not be considered sufficient and this view, on the motion of Dr. Peel Ritchie, was recommended for adoption by the London authorities.

FORFARSHIRE MEDICAL ASSOCIATION—At a quarterly meeting of the members of this Association held at University College, Dundee, Dr. Rorie the President spoke of the loss sustained by the Society by the death of Dr. Macleod, who had been one of its most active members, and who for four years had acted as treasurer. The secretary was instructed to record an expression of regret in the minute-book. Dr. Pirie then showed a typical case of Pseudo-hypertrophic Paralysis which had been previously exhibited to the Association. Several pathological specimens were then brought before the members. Dr. Kynock showed a Three Months Pregnant Uterus and Appendages removed from a patient who had died of acute tuberculosis, Dr. Rorie exhibited specimens of Bony Spicula in the Dura Mater from two epileptic patients, Dr. Mackie Whyte showed the Liver, Spleen and kidneys from a case of waxy disease and also specimens of Aneurysms. Finally, Dr. McGillivray showed a series of Ophthalmic cases, and read notes of three cases of Metastatic Parental Choroiditis.

The annual meeting of the National Health Society for the distribution of medals and certificates to the successful competitors at the Society's Medal Examination, is arranged for June 3rd at Grosvenor House, by the kind permission of his Grace the Duke of Westminster, who, with the Duchess, has consented to be present.

FOOTBALL CASUALTIES—A youth whilst playing a game, on the 27th ult., at Stockton Heath Warrington, fractured his arm. On Saturday last, during a League match, at Burnley, a goal keeper sustained an injury to the face, part of the cheek bone being "splintered," he was removed to the Burnley Hospital. On the same day, in the course of a match in Nelson's field, Low road, Hunslet, a youth, aged seventeen years, fractured his leg, and was conveyed to the Leeds Infirmary. On Monday last, at Hanson lane, in a match Halifax against Hull, a player fractured his clavicle.

NOTES IN PARLIAMENT

Death Certification.

The Select Committee of the House of Commons appointed on the motion of Dr. Cameron to inquire into the question of death certification met on the 28th ult. to select a chairman and arrange the method of procedure. The choice of chairman fell upon Sir Walter Foster, Parliamentary Secretary to the Local Government Board, Dr. Cameron being the member who proposed him. It was arranged that the first meeting of the Committee for the hearing of evidence should be held on Friday April 14th and that thereafter there should be meetings twice a week on Tuesdays and Fridays. In the first instance inquiry will be directed to the present state of the law as to registration and burial and afterwards to suggested improvements. The members nominated to the Committee are Sir Walter Foster (chairman), Mr. Arch. Mr. Brookfield, Dr. Cameron, Dr. Farquharson, Mr. Hozier, Mr. Heywood Johnston, Sir Thomas Lea, Mr. MacNeill, Sir Stafford Northcote and Sir Henry Roscoe. The Committee have the usual powers "to send for persons, papers and records."

The Oldbury Vaccination Cases

After the recess Mr. Hopwood will address a series of questions to the President of the Local Government Board with reference to the alleged cases of injury by vaccination at Oldbury in the West Bromwich Union. Mr. Hopwood's immediate purpose is to secure for the benefit of the board of guardians a copy of the report on the subject made by Dr. Acland to the Royal Commission on Vaccination. His information is to the effect that the report though repeatedly asked for, has been refused.

Resumption of the Session.

After an Easter holiday of less than a week the House of Commons resumed its work on Thursday when there was a very large attendance of members. The House of Lords does not meet until Tuesday, the 18th inst.

Seamen's Provisions Bill

In view of the Committee stage of this Bill a large number of amendments have been placed upon the notice paper of the House of Commons. Mr. Lawrence has given notice of two new clauses. One is to the effect that in case the supply of butter, marmalade and jam, or any of them runs short, or it is impossible to procure them one pound of salt meat and one pound of preserved meat may be issued in lieu of the full rations of these articles and proportionately for lesser rations. The other is to the effect that it shall be lawful for the master and crew to mutually agree at any period for substitutes other than those provided in the schedule of the Bill. Mr. Havelock Wilson has drawn up a new clause providing that the Bill shall not apply in certain circumstances to Asiatics or Africans or to ships where by mutual consent, no food is provided for the crews but an allowance of money given weekly as an equivalent.

Appointments.

Successful applicants for Vacancies Secretaries of Public Institutions and others possessing information suitable for this column, are invited to forward it to THE LANCET Office directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.

ALLEN JAMES M.R.C.S. L.S.A. Lond. L.R.C.P. L.V. Edin. has been reappointed Medical Officer of Health for the Bollington Urban Sanitary District.

ARMISTEAD, H. W. M.R.C.S. L.R.C.P. has been appointed Senior House Surgeon to St. Bartholomew's Hospital.

BASHALL, C. E. L.R.C.P. M.R.C.S. has been appointed Assistant House Surgeon to the South Devon and East Cornwall Hospital Plymouth.

BATES J. CURTIS M.R.C.S. L.R.C.P. Lond. has been appointed Medical Officer to the Croydon Board of Guardians for the Norwood District.

BRIDGES, E. C. M.R.C.S. L.R.C.P. has been appointed Junior House Physician to St. Bartholomew's Hospital.

the symptoms of his ill health to the strain of the examinations for that degree. In practice he was courteous, ready, original and energetic. He was esteemed and beloved by his patients. He had his peculiarities and even his faults like other men, but he had great virtues, which were displayed in all the relationships of life from those of his family downwards. In the affairs of the parish, of the Church, and of the Parliamentary division, he took an active and intelligent interest. Of late years he had added to his other duties that of Medical Lecturer to the Church Missionary College Islington. Dr Cribb was the son of the late Mr John Jennings Cribb, who practised medicine at Cambridge. Amongst the facts of his earlier history were his education at the Middlesex School and his house surgery at Middlesex Hospital. He was also house surgeon to the Tunbridge Wells Infirmary. For many years after commencing practice he was one of the most active members of the honorary staff of the Holloway and North Islington Dispensary and up to the time of his death he continued to be one of the most valuable members of the committee. He took much interest in the Society for the Relief of Widows and Orphans of Medical Men, and in other benevolent agencies of the profession. Any notice of Dr Cribb in our columns would be incomplete without some account of his many illnesses, which were of a somewhat unusual character and which included a history of one or more intense attacks of renal colic, and in later years—say the last twelve or fifteen—attacks of hæmatemesis and melæna, with or without ascites at varying and, latterly, shorter intervals. Throughout the whole of his life he was attended, kindly and constantly, by his neighbour Dr Stokes. At a post-mortem examination the following facts were observed.—The peritoneum was found to be thickened and opaque, with firm adhesions uniting the various organs together and the viscera to the back of the hard abdominal wall, which at points was like a solid plate. The spleen was considerably enlarged. Other organs were apparently healthy. The abdomen was the only cavity examined. The pylorus was of normal size, and no evidence of malignant new growth could be detected. Dr Cribb leaves a widow, two sons and two daughters to lament his death.

PROFESSOR ALESSANDRO SOLIVETTI

PSYCHOLOGY is one of the strong points of Italian medicine, and few have done it more credit than the able and industrious vice director of the great Roman Manicomio and professor of clinical "psichiatria" in the University who died on the 26th ult. Dr Solivetti had worked long and well in the institution with which he was connected, first under the late lamented Dr Fiorispini, of whose exemplary career we lately gave some account, and next under Dr Fiorispini's highly efficient successor. Shortly after graduation he made a round of visits to the leading medical schools of Germany and France, studying particularly their asylum systems and keenly noting anything novel or serviceable in their management. He returned to Rome one of the most accomplished alienists in Europe and for thirty two years dedicated all his time and means to perfecting the care and cure of the insane in her chief asylum. He was as already indicated, Dr Fiorispini's "right-hand man," beloved by his chief and by his staff of assistants beloved too, by successive relays of the students, who flocked to his prelections in the "Sapienza." Personally he was a most amiable and agreeable man and he will be long missed by those with whom he lived and laboured in Rome and its province. He was but fifty seven when he died.

METROPOLITAN ASYLUMS BOARD—The number of patients remaining in the several fever hospitals of the Board at midnight on April 4th was as follows.—Eastern Hospital, 123 scarlet fever, 51 diphtheria and 4 enteric fever, North Eastern Hospital, 491 scarlet fever, North Western Hospital 157 scarlet fever 104 diphtheria and 7 enteric fever, Western Hospital, 211 scarlet fever, 36 diphtheria, 1 typhus fever and 7 enteric fever, South Western Hospital, 213 scarlet fever, 42 diphtheria and 13 enteric fever, South Eastern Hospital, 247 scarlet fever, 23 diphtheria and 12 enteric fever, Northern Hospital, 526 scarlet fever and 12 diphtheria. There were on the same date 147 cases of small pox on the hospital ships *Atlas* and *Cestria* and at Gore Farm 99 cases.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen passed the Second Examination of the Board at the meeting of the examiners on the 1st inst.—

Anatomy and Physiology—Arthur C. B. Pierson Thomas Spencer Henry Bailey and Ernest J. A. Dodd students Yorkshire College Leeds Edward V. Worthington and George E. F. Stammers, Bristol Medical School Charles R. Dykes Bristol Medical School and Mr Cooke's School of Anatomy and Physiology Daniel Pettigrew and William H. Oxley Sheffield Medical School, Robert E. Cran William T. Burns and Arthur C. Oldham, Owens College Manchester John H. Clements Mason's College Birmingham Edward H. Roberts St. Mungo's College, Glasgow John G. McKay Melbourne University, Frederick J. L. Willey Melbourne University and Bristol Medical School George E. Dodson, St. Bartholomew's Hospital, John Gorman Queen's College, Belfast John R. Johnson University College Liverpool.

Anatomy only—Alfred A. P. Moffatt, Owens College, Manchester William F. Maw, Edinburgh University and Yorkshire College Leeds Francis R. M. Higgs John C. Rneale and William H. Tracy, Mason's College Birmingham Frederic Anthony Bist Medical School Richard E. W. Jennings Bristol Medical School and Mr Cooke's School of Anatomy and Physiology Edward H. Herring Middlesex Hospital Ernest G. L. Goffe University College and Quinlan's School, St. Thomas's Hospital.

Physiology only—Herbert Eng and Herbert Hallam, Sheffield Medical School Thomas MacDonell, Queen's College, Belfast Stanley W. Williams University College Liverpool John I. Elliott Yorkshire College Leeds Thomas Jones Owens College Manchester William L. Freer Mason's College, Birmingham Edward Fielden, Durham University and Owens College Manchester.

Nine candidates were referred in both subjects, three in Anatomy only and nine in Physiology only.

Passed on the 3rd inst.—

Anatomy and Physiology—Percy G. Lodge student Yorkshire College Leeds H. R. Webb Ware Oxford University James Tempest Owens College Manchester Stanley Stephens, St. Mary's Hospital George V. Worthington Cambridge University John H. Fenoull, Cambridge University and St. Mary's Hospital John A. O. Briggs and William R. Stowe St. Bartholomew's Hospital Robert O. Moon and William A. Horton Guy's Hospital John H. Crowley, Melbourne University and Kings College Hospital Arthur D. Ketchum University College William I. Woodhouse and Rupert Wheatley Middlesex Hospital Charles R. Meyer St. George's Hospital Frederick H. Atkinson and Abraham I. Roz Saar Charing Cross Hospital.

Anatomy only—Edmund B. Lloyd, St. Mary's Hospital John I. Ferrie St. Bartholomew's Hospital, and Arthur G. Ede University College.

Physiology only—Edwyn R. Grazebrook Kings College Albert V. Merton, Owens College Manchester Charles O. Grummitt Francis H. Martin, Robert A. Draper, Cambridge University John B. Stanfield, Oxford University James O. B. Brain Hartnell Middlesex Hospital, Alexander Baker, St. Thomas Hospital Harvey Hillard Charing Cross Hospital, and Sydney Crispin Mason's College, Birmingham.

Seven candidates were referred in both subjects nine in Anatomy only and five in Physiology only.

Passed on the 4th inst.—

Anatomy and Physiology—William Ryan Albert W. Herby William M. Jones and Howard Green, students of Charing Cross Hospital Walter P. Jones and Sidney F. Smith St. George's Hospital Nora Daly Victor E. Collins Arthur J. Dolman, Harry T. Hicks Harry L. Williams and George K. Levick, Guy's Hospital Michael Takayan Richard W. Western, Allan Warner, Edward H. Sucliff, St. Thomas's Hospital Justus M. Schnur Robert M. Cowie and William B. Bell Kings College Arthur J. H. Boyton Alexander B. Tucker and Arthur Heath St. Bartholomew's Hospital William G. Savage, University College.

Anatomy only—Edmund S. Hall and Eric N. Scott, Guy's Hospital Thomas B. Marshall St. Thomas's Hospital Quintin H. Mille Charing Cross Hospital and Edward B. James, St. George Hospital.

Physiology only—Thomas A. Barton and Bernard Rowland St. Bartholomew's Hospital, Frederic W. Page St. Thomas's Hospital Robert I. Brown Guy's Hospital, and Daniel B. Becker St. Charing Cross Hospital.

Three candidates were referred in both subjects five in Anatomy only and five in Physiology only.

UNIVERSITY OF GLASGOW—The following have passed the first professional examination for the degrees of Bachelor of Medicine (M.B.) and Master in Surgery (M.Ch.)—

James Adam James Francis Agnew Wm. Allen, John Anderson M.A. Francis James Barker M.A. William Stevenson B.Sc. Henry Brown John Ritchie Brown Charles Hodge Cairns Donald M. Gregor Campbell Frederick Burdett Cormick, Peter Latimer Leitch Craig M.A. John Crawford John Arthur Clarke Donald Charles Elphinstone Fleming Joseph Green William Hanser George Hanson Arthur Holt, Gavin Dalzell Hunter Edwin Brodie Jago Frederick James Jayne James William Johnston Archibald Livingston, John Lunn John M. Ewan Manford M.A. James Andrew Dixon Mulholland Donald Munro Nell McCallum, John Allan Craigie Macqueen, Edward Mackay, Wm. Jones Mackinnon Alexander McDonald Nevill William John Orr, James Mallock Robertson John James Robertson John Neil Robertson William Kerr Russell James Smith Henry Hyalton Thomson Joseph Milne Thornley Charles Kirk Toland, Harry Muir Watson Herbert Yearnshaw.

Medical Diary for the ensuing Week.

Monday, April 10

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M., Fridays and Saturdays at the same hour
 ST. BARTHOLOMEW'S HOSPITAL.—Operations 1.30 P.M., and on Tuesday, Wednesday Friday, and Saturday at the same hour
 ST. MARK'S HOSPITAL.—Operations 2 P.M. Tuesday 2.30 P.M.
 ST. THOMAS'S HOSPITAL.—Ophthalmic Operations 2.30 P.M. Friday 2 P.M.
 ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, daily at 10 A.M.
 ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour
 CHELSEA HOSPITAL FOR WOMEN.—Operations, 2 P.M. Thursday 2 P.M.
 HOSPITAL FOR WOMEN, SOHO SQUARE.—Operations, 2 P.M. and on Thursday at the same hour
 METROPOLITAN FREE HOSPITAL.—Operations 2 P.M.
 ROYAL ORTHOPEDIC HOSPITAL.—Operations, 2 P.M.
 CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations 2 P.M., and each day in the week at the same hour
 UNIVERSITY COLLEGE HOSPITAL.—Ear and Throat Department, 9 A.M., Thursday 9 A.M. Eye Department, 2 P.M.
 ONTOLOGICAL SOCIETY OF GREAT BRITAIN (40 Leicester-sq. W.C.).—8 P.M. Casual communications by Messrs. R. H. Woodhouse F. J. Bennett and others
 MEDICAL SOCIETY OF LONDON.—8.30 P.M. Dr. W. R. Gowers Neurology and Therapeutics

Tuesday, April 11

GUY'S HOSPITAL.—Operations 1.30 P.M. and on Friday at the same hour
 Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.
 CANCER HOSPITAL, BROMPTON.—Operations 2 P.M., Saturday, 2 P.M.
 WESTMINSTER HOSPITAL.—Operations, 2 P.M.
 WEST LONDON HOSPITAL.—Operations 2.30 P.M.
 UNIVERSITY COLLEGE HOSPITAL.—Skin Department, 1.45 Saturday 9.15
 ST. MARY'S HOSPITAL.—Operations 1.30 P.M. Consultations Monday 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays 1.30 P.M. Electrotherapeutics same day 2 P.M.
 ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—Mr. W. Bruce Clarke Acute Renal Dialcation.—Mr. Henry T. Butlin On the Removal of a "Pressure pouch" of the Oesophagus.

Wednesday, April 12

NATIONAL ORTHOPEDIC HOSPITAL.—Operations 10 A.M.
 MIDDLESEX HOSPITAL.—Operations, 1.30 P.M., Saturdays 2 P.M. Obstetrical Operations Thursdays, 2 P.M.
 CHARING-CROSS HOSPITAL.—Operations, 3 P.M., and on Thursday and Friday at the same hour
 ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M. Saturday same hour
 LONDON HOSPITAL.—Operations 2 P.M. Thursday and Saturday, same hour
 ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations 2 P.M.
 SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.
 GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
 UNIVERSITY COLLEGE HOSPITAL.—Operations 1.30 P.M. Dental Department 9.30 A.M. Eye Department 2 P.M.
 ROYAL FREE HOSPITAL.—Operations 2 P.M. and on Saturday
 CHILDREN'S HOSPITAL, GREAT ORMOND STREET.—Operations 9.30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.
 HORTERIAN SOCIETY.—8.30 P.M. Clinical Evening Mr. J. F. Woods (1) Case of Myxedema treated with Thyroid Extract (2) Cases illustrating the Treatment of Alcoholism by Hypnotism.—Dr. Arthur Davies (1) Case of Bell's Paralysis of Twelve Years Duration (2) Case of Hemispherical Diaphoresis.—Dr. Hingston Fox (1) Case of Lymphadenoma (2) Case of Myxedema treated by the Administration of Crude Thyroid Glands. And other cases.

Thursday April 13.

ST. GEORGE'S HOSPITAL.—Operations 1 P.M. Surgical Consultations Wednesday 1.30 P.M. Ophthalmic Operations Friday 1.30 P.M.
 UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M. Ear and Throat Department, 9 A.M. Eye Department, 2 P.M.

Friday, April 14.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations 2 P.M.
 UNIVERSITY COLLEGE HOSPITAL.—Eye Department, 2 P.M.
 CANCER HOSPITAL (Fulham road S.W.).—4 P.M. Mr. E. Cotterell Tumours of the Genito-Urinary System
 CLINICAL SOCIETY OF LONDON.—Mr. H. Allingham A case of Gastro-Enterostomy for Cancer of the Pyloric End of the stomach.—Dr. Claude Wilson A Sequel to some cases showing Hereditary Enlargement of the Spleen.—Mr. W. H. Battle A case of Abdominal Section for Rupture of the Spleen.—Dr. Lucas Benham A case of Psoas Abscesses Fatal through Renal Complications

Saturday, April 15

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M. and Skin Department, 9.15 A.M.

METEOROLOGICAL READINGS

(Taken daily at 8.30 a.m. by Stewart's Instruments.)

THE LANCET Office, April 6th, 1893.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radiation in Vacuum.	Maximum Temp. Shade.	Minimum Temp.	Rain fall.	Remarks at 8.30 A.M.
Mar 31	29.83	S.W.	40	45	110	69	44	—	Foggy
April 1	29.94	S.W.	49	46	110	70	44	—	Foggy
" 2	30.20	N.E.	40	45	110	63	44	—	Bright
" 3	30.26	N.E.	45	47	102	65	41	—	Hazy
" 4	30.25	E.	48	43	100	63	41	—	Bright
" 5	30.10	E.	49	48	91	66	46	—	Overcast
" 6	30.11	E.	46	45	65	61	45	—	Overcast

Notes, Short Comments & Answers to Correspondents.

EDITORIAL NOTICE

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office

Lectures, original articles, and reports should be written on one side only of the paper

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub Editor"

Letters relating to the publication, sale and advertising departments of THE LANCET should be addressed "To the Publisher"

We cannot undertake to return MSS not used

PUBLISHER'S NOTICE

IN order to facilitate the work of reference to the volumes of THE LANCET, we have arranged in the future to publish duplicate copies of the Index to each half yearly volume in a form in which they may be subsequently filed or bound together

We have had a large number of duplicate copies of the Index to the last half yearly volume printed, and those of our subscribers who may wish to be supplied with loose copies can obtain the same (without extra charge) on making application to the Publisher of THE LANCET

DOUBTFUL DIAGNOSIS AND THE INTERVENTION OF THE MEDICAL OFFICER OF HEALTH

Mr. Henry Brand.—It is not the duty of the medical officer of health to sit in judgment on the accuracy of the diagnosis of the medical attendant who has notified an infectious disease. If he had any good reason for doubt in the matter his duty would be to communicate directly and in a friendly way with the notifying practitioner, on whom the law has placed the responsibility of decision

A CASE OF INTUSSUSCEPTION

To the Editors of THE LANCET

SIRS.—I think it may be worth while to place this case on record as it appears to be an example of a condition referred to in THE LANCET of Oct. 16th 1892, as unusual.

The patient was a male child of Mohammedan parentage aged nine months who was brought to me on Nov. 10th 1892. The illness was said to have begun about noon on the day before—i.e. about twenty-four hours previously the symptoms observed by the mother being a discharge of blood from the anus and a lump in the abdomen. The child had been sick, but how frequently could not be accurately ascer-

BROWN, E. M.R.C.S., L.R.C.P. has been appointed Extern Midwifery Assistant to St. Bartholomew's Hospital.

BUCK A. H., M.R.C.S. L.R.C.P. has been appointed Junior House Surgeon to St. Bartholomew's Hospital.

BUTTAR C. M.B. Cantab. has been appointed Junior House Surgeon to St. Bartholomew's Hospital.

CHADWICK, J. M.R.C.S. has been appointed Medical Officer for the Township of Butterworth vice Ogden resigned.

CLARKSON W. L.R.C.P. Edin. L.F.P.S. Glasg. has been reappointed Medical Officer for the Eighth Sanitary District of the Morpeth Union.

COOK J. W. M.D. Aberd. M.P.C.S. has been reappointed Medical Officer of Health for the Tending Rural Sanitary District.

CORRI WILLIAM M.D., Ch. M. Irel. D.P.H. Camb. has been appointed Health Officer for the Shire of Cranwick, Victoria, Australia, vice Allen deceased.

DRYON F. J., M.B. Cantab. has been appointed Senior House Physician to St. Bartholomew's Hospital.

DODSWORTH F. C. L.R.C.P. Lond. M.R.C.S. has been reappointed Medical Officer of Health Chiswick.

DUNN R. A. M.R.C.S., L.R.C.P. has been appointed Senior House Physician to St. Bartholomew's Hospital.

ECCLES H. A. M.B. Lond. has been appointed Senior House Physician to St. Bartholomew's Hospital.

ECCLES, W. M. ADAM M.B. B.S. Lond. F.R.C.S. Eng. has been appointed Surgeon to the St. Marylebone Dispensary.

FENTON JAS. L. M.B. C.M. Edin. has been appointed Health Officer pro tem for the Shire of Bight Victoria Australia vice Wilkinson.

FUSSELL E. F. M.B. Aberd., M.R.C.P. Lond., has been reappointed Medical Officer of Health East Sussex.

GIBSON C. G. M.B. C.M. Edin. has been reappointed Medical Officer of Health for the Lancastron Rural Sanitary District.

HALL J. BASIL M.A. M.B. B.C. Cantab. has been appointed Resident Casualty Officer to the Leeds General Infirmary, vice Thompson resigned.

HANNAH NATHAN L.R.C.P. Edin. L.F.P.S. Glasg. has been reappointed Medical Officer of Health for the Abram Urban Sanitary District.

HARPER J. R. L.R.C.P. Lond. M.R.C.S. has been appointed Medical Officer for the Bishopstowton Landkey, Swymbridge and Stoke Rivers Sanitary District.

HASWELL N. R. M.R.C.S. has been reappointed Medical Officer for the Helston Rural Sanitary District.

HERBURN H. L. M.B. Lond. has been appointed Junior House Surgeon to St. Bartholomew's Hospital.

HOGARTH R. G., M.R.C.S. L.R.C.P. has been appointed Senior House Surgeon to St. Bartholomew's Hospital.

HOOPER, F. L. M.R.C.S. L.S.A. Eng. has been appointed Health Officer for the East Riding of the Shire of Mornington, Victoria, Australia vice Sturdee, resigned.

INDOV W. H., M.B. Lond. M.R.C.S. has been appointed Medical Officer for the Birkdale Sanitary District of the Ormskirk Union.

JONES W. B. M.B. Lond. has been appointed Junior House Surgeon to St. Bartholomew's Hospital.

KNOX J. J., M.A., M.B., B.C. Cantab. M.R.C.S. L.R.C.P. Lond. has been appointed Medical Officer and Public Vaccinator for the Molesey District of the Kingston Union vice Skimming resigned.

M'CREADIE, WM. M.B. C.M. M.R.C.P. Eng. D.P.H. has been appointed Physician to Leith Hospital vice Brown resigned.

MILLER, J. M.R.C.S. L.R.C.P. has been appointed Junior House Physician to St. Bartholomew's Hospital.

MORRIS, R. B. L.S.A., has been appointed Assistant Medical Officer at the Mansall Fever Hospital.

OLIVE, E. J. P., M.B. Cantab. F.R.C.S. has been appointed Senior House Surgeon to St. Bartholomew's Hospital.

PATERSON, H. J. M.B. Cantab. has been appointed Junior House Surgeon to St. Bartholomew's Hospital.

POGSON, W. F.R.C.S. L.R.C.P.E. has been reappointed Medical Officer of Health for the Leeds Rural Sanitary District.

POMFRET, H. W. M.D. Vict., Ch. B. L.R.C.P. Lond., F.R.C.S. has been reappointed Surgical Registrar at the Manchester Royal Infirmary.

RAWLINGS H. F. L.R.C.P. Irel. M.R.C.S. has been appointed Medical Officer of Health for the Rural Sanitary Authority of the Gower Union vice Jones.

RENTON GEORGE, M.D. Edin. has been appointed Medical Officer of Health for the Consett Urban Sanitary District of the Lancastron Union.

REYNOLDS H. D., L.R.C.P. L.M. Edin. M.R.C.S. has been reappointed Medical Officer of Health for Pembroke Dock.

ROBINSON G. D. M.D. Lond. has been appointed Resident Midwifery Assistant to St. Bartholomew's Hospital.

ROTH, FELIX M.R.C.S. L.R.C.P. has been appointed House Surgeon to St. Mary's Hospital London vice Eyre.

SEQUEIRA, JAMES HARRY M.D. Lond. M.R.C.S., L.R.C.P. has been appointed Assistant Demonstrator of Anatomy at the London Hospital Medical College vice Tonks resigned.

SHIVERS J., M.D. Aberd., L.R.C.S. L.M. Edin. has been reappointed Medical Officer of Health for the Liversedge Urban Sanitary District.

SOUTH, RICHARD ERNEST EDWARD has been appointed Surgeon Lieutenant to the Second Volunteer Battalion Lincoln Regiment. Dated March 18th, 1893.

STACK G. H. E. M.B. Cantab. has been appointed Ophthalmic House Surgeon to St. Bartholomew's Hospital.

STUBBS J. D., M.B. Cantab. has been appointed Senior House Physician to St. Bartholomew's Hospital.

TATE, WALTER W. H., M.B. Lond. M.R.C.P. has been appointed Physician to the Out-Department at the Samaritan Free Hospital for Women and Children.

THOMAS A. H., M.B., C.M. Edin., B.Sc. (Pub. Health) Edin. has been appointed Medical Officer of Health for Vancouver, British Columbia.

THOMPSON GEOFFREY W., B.A., M.B., B.C. Camb. M.R.C.S. L.R.C.P. Lond. has been appointed House Surgeon to the Children's Hospital, Nottingham.

THOMPSON, WALTER, F.R.C.S. Eng. has been appointed Resident Surgical Officer to the Leeds General Infirmary, vice Moynihan resigned.

THORNE THORNE, B. B., M.R.C.S., L.R.C.P. has been appointed Junior House Physician to St. Bartholomew's Hospital.

TREVELYAN, E. F., M.D., B.Sc. Lond. has been appointed Pathological Curator to the Leeds General Infirmary.

TROUTBECK H., M.B. Cantab. has been appointed Junior House Physician to St. Bartholomew's Hospital.

WEIR, H. A., M.R.C.S. L.R.C.P. has been appointed Senior House Surgeon to St. Bartholomew's Hospital.

WHITEHEAD ARTHUR L., M.B. Lond., has been appointed Resident Ophthalmic Officer to the Leeds General Infirmary.

WILLS, W. A., M.D. Lond., M.R.C.P., has been appointed Honorary Physician to the St. Marylebone General (Weibek street) Dispensary.

WITHERS F. E. M.R.C.S. L.R.C.P. has been appointed Senior House Surgeon to St. Bartholomew's Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BATH GENERAL OR ROYAL MINERAL WATER HOSPITAL.—Resident Medical Officer (unmarried) Salary £100 per annum, with board and apartments in the hospital.

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeon, for the Highgate Branch. Salary £150 per annum with an allowance for call hire and furnished rooms fire lights and attendance.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria park E.—Pathologist. Salary 100 guineas per annum. Apply to the Secretary at the Office 24 Finsbury circus E.C.

COUNTY ASYLUMS Gloucester.—1st Assistant Medical Officer. Salary £105 per annum with board, lodging and washing, but no intoxicants.

CUMBERLAND INFIRMARY Carlisle.—Assistant House Surgeon for one year. Salary £40 per annum with board lodging and washing.

EAST LONDON HOSPITAL FOR CHILDREN, Glams-road, Shadwell, E.—House Physician. Board and lodging provided.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—House Physicians.

LIVERPOOL STANLEY HOSPITAL.—Assistant Honorary Physician.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY Greenwich road S.E.—Junior Resident Medical Officer for twelve months. Salary £30 per annum with board attendance and washing.

NORTH WEST LONDON HOSPITAL, Kentish Town road.—Resident Medical Officer for six months. Salary £50.

NORTH WEST LONDON HOSPITAL, Kentish Town road.—Assistant Resident Medical Officer for six months. No salary.

PLYMOUTH ROYAL EYE INFIRMARY.—Honorary Surgeon.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House Surgeon, for six months. Rooms common and washing provided in the hospital.

ST PANCRAS AND NORTHERN DISPENSARY, 126, Euston road.—Resident Medical Officer. Salary £100 with residence and attendance. Applications to be sent to the Hon. Sec., 23 Gordon street, Gordon-square W.C.

THE COPPICE Nottingham.—Assistant Medical Officer (unmarried). Salary £120 per annum with furnished apartments, board, washing and attendance.

Births, Marriages and Deaths.

BIRTHS

MCDONALD.—On March 20th at Ebert-street, St. George's road, N.W., the wife of William J. McDonald, L.D.S. Eng., of a daughter.

MANTLE.—On March 27th at Savile place, Halifax, the wife of Alfred Mantle, M.D. of a daughter.

WIGAN.—On March 28th at Portlehead Somerset the wife of Charles A. Wigan M.D., M.R.C.S. of a son prematurely.

MARRIAGES

GREFNE MORRIS.—On April 6th at St. Mary's Church Putney, Henry Bertram B. Greene M.R.C.S. Eng. L.R.C.P.I. of Wandsworth, to Julia Adelaide third daughter of Austin Morris, Esq. Civil Service of Parkfield Putney.

TARGETT-JEFFERY.—On April 5th at Donhead, St. Andrew, Wilts, James Henry Targett M.S., F.R.C.S. of St. Thomas's street, London bridge to Catherine Sarah, third daughter of James Jeffery, Esq., of Donhead.

DEATHS

CRIBB.—On Good Friday at Highbury place, N., Arthur John Cribb M.D. Lond., aged 68.

CROSS.—On the 27th ult. at Madeira, Robert Cross M.D. of Berkeley-square, in his 55th year.

FOX.—On April 4th, in his 46th year, Richard Dacre Fox M.R.C.S., F.R.C.S. late of Manchester.

HAYCOCK.—On the 8th ult. at Clarendon, Crouch hill George Haycock, M.R.C.S. Eng., L.S.A., of No 79 Clarence-road, Clapton, aged 71.

JESSOP.—On the 1st inst., Isabella Harvey wife of T. R. Jessop, F.R.C.S., 32 Park square, Leeds, and Roundhay Mount, Roundhay, aged 63.

READ.—On the 26th ult., at Windsor road Denmark hill, in his 81st year Reginald Read M.D., F.R.C.P. Edin., late of Galford place, Russell square.

N.B.—A fee of 5s. is charged for the Insertion Notices of Births Marriages and Deaths.

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tained and no fecal matter had been passed. He appeared also to have abdominal pain at times. The infant was a healthy looking child and did not appear at all collapsed. The face was a little flushed but the temperature was normal. In the left side of the abdomen a tumour could be felt most distinct in the iliac region. One end of it could be just touched by the finger inserted into the rectum but the other end was not distinctly made out. The abdomen was not rigid or distended and there did not appear to be very marked tenderness. I gave chloroform and slowly injected a quantity of warm water into the bowel with a Higginson's syringe the child being at the same time held in a half inverted position, as the sphincter anal was so lax that it was difficult to prevent the water escaping almost as fast as it was injected. By repeated injections the intussusception was gradually reduced the receding tumour being traced in the intervals between them along the descending and transverse portions of the colon. Finally only a small lump apparently about the size of a small walnut, could be felt in the caecal region but one or two further injections distending the whole colon failed to make it disappear. This I supposed to be a small portion of the intussusception which had remained unreduced, and I therefore recommended laparotomy but in spite of endeavours to make them understand the gravity of the case the consent of the parents could not be obtained. They went off to consult with other relatives taking the child with them and I heard nothing more of the case until about a fortnight ago when I was told that he had recovered having no further bad symptoms from the time of the injections. On Feb. 11th I myself saw him alive and well.

I think there can be no doubt that the condition in this case was identical with that described by Mr. Bilton Pollard in THE LANCET of Oct. 15th 1891 although the confirmatory evidence afforded by laparotomy is not forthcoming. The supposition that the small swelling still felt after reduction by injection of water was due to the swollen condition of the ileo caecal valve affords a satisfactory explanation of its persistence when the reduction must have been really complete.

I am, Sirs, yours truly

F. M. FARRER, M.B., B.S. LOND.

Bhivani Punjab, India Feb. 18th 1893

THE SALE OF MIDWIVES "DIPLOMAS" BY THE OBSTETRICAL SOCIETY AND THE LIVERPOOL LYING IN HOSPITAL.

DR. RENTOU sends us a communication too long for insertion deprecating the sale to women of "diplomas" as he calls them in midwifery observing that the General Medical Council has made a rule to the effect that these diplomas have no legal value. The sale of these diplomas has realised in the case of the Obstetrical Society in the course of eighteen years £935 5s., and in the case of the Liverpool Lying In Hospital £1000 in eight years. What the General Medical Council did was we believe not to "make a rule" but to inform Dr. Rentoul that such certificates are neither licences nor diplomas and possess no legal value, and to point out through the President to the institutions and persons who grant such certificates that the certificates should be expressed in such a form as not to lead to the impression that they are legal qualifications to practise midwifery. It is undoubtedly unsatisfactory that the granting of such certificates should be a sort of business and a source of profit to either societies or individuals who like to take up the work. If the Act of 1893 which required full qualification in medicine surgery and midwifery, is to be tampered with, it should be on conditions and by authorities defined by Parliament.

Inquirer has not enclosed his name and address

SANITARY PRECAUTIONS

To the Editors of THE LANCET

SIRS.—On page 763 of THE LANCET of last week you note the compulsory bath system at Kirkby Stephen. I do not wish to draw inordinate praise upon any of my sanitary authorities, much less on the virtual originator of their action, but I may add that at Kirkby Stephen other means are adopted which you may think worthy of imitation in other districts—viz., all the sleeping rooms occupied by tramps are disinfected during the daytime with chlorine and all the clothing of the tramps is taken from them when they go to sleep and during the night is also exposed to the chlorine fumes for several hours. Whilst revaccination will protect a person who may have been exposed to infection it seems to me absolutely necessary that the farther means of daily disinfection of every item of clothing &c. ought to be carried out for the protection of those who have not been and are not willing to be revaccinated. Another measure adopted is weekly public vaccination in lieu of the usual three weeks in every third month. This is only in the country places of course weekly vaccination in the borough of Kendal being the regular practice at all times of the year.

I am, Sirs, yours truly

Kendal, April 1st, 1893

R. MUSGRAVE CRAVEN, M.O. H.

CLUB PATIENTS AND RAILWAY ACCIDENTS

Surgeon.—The question is a legal one but we should have no hesitation in saying that it is unreasonable to expect the surgeon of a club to attend a club patient for injuries caused by a van belonging to a company, which company has admitted its liability.

THE LIMITATION OF PENALTIES FOR NON-COMPLIANCE WITH THE VACCINATION ACTS

BRIGADE SURGEON ROBERT PRINGLE, M.D., favours us with a communication on the above subject. We are unable from want of space to insert the whole letter, but quote a few sentences, which contain the gist of his contention.

"If Mr. Asquith" says Dr. Pringle "and those who agree with him on the subject of the limitation of penalties for non-compliance with the Vaccination Acts succeed in carrying their point the outcome will be the formation throughout the country of insurance societies for the payment of the single penalty for non-compliance by a small weekly payment for a longer or shorter period according to its amount. The result of this will of necessity be the practical voluntary acceptance of vaccination as the rich will aid in paying the penalty for the very poor who may be unable to meet even a small weekly payment. Here lies the whole secret of this urging of the limitation clause and it therefore seems to me that this will have the effect not only of practically making this acceptance voluntary but doing it in a manner which forfeits the only justifiable plea for the infliction of any penalty for non-compliance, and doing it by means of what is really a legal evasion obtainable by a fixed payment. If compulsory vaccination is necessary the public health there should be no means of evading it, and certainly no legal ones. If vaccination can be shown to be either not necessary or only so at a cost of risk of injury to health out of proportion to the supposed benefit then let compulsion be abandoned and the acceptance of the prophylactic made voluntary and the country take the consequences."

Mr. Edgar Waelly should consult the Medical Directory

HYPERPIREXIA IN A CASE OF INFLUENZA.

To the Editors of THE LANCET

SIRS.—The following case strikes me as being of some interest on account of such an astonishingly high temperature—

A plasterer was taken ill with pains in his limbs, back and head on Monday, March 13th. I saw him the same day, and found him suffering from influenza his temperature being at that time 103° F. It never rose above this (and dropped on two or three occasions to 101° F.) until the Monday following (March 20th). I was called to him at 3 A.M. when I found him quite insensible with very pronounced stertorous breathing and on taking his temperature I was extremely astonished to find it registered 108° F. On touching his skin it was so hot that I could barely keep the back of my hand on it. I immediately ordered him to be sponged all over with cold water, but he succumbed in less than half an hour. His wife informed me he had spoken quite sensibly to her at 2 A.M. and had taken some milk. I had carefully examined him throughout his illness for any lung cardiac or cerebral trouble but could discover nothing amiss. It might be suggested that my thermometer was wrong. I can only say I had quite recently tested it with several others and have done so since, but find it to be correct.

I am, Sirs, yours faithfully,

W. H. BOGER M.R.C.S. Eng., L.R.C.P. Edin.

Fowey Cornwall March 26th 1893

METEOROLOGY

THE Weather Conference which is to take place at Chicago in the autumn may or may not result in the formulation of data by which forthcoming weather may be safely predicted. A little pamphlet, written by Mr. Hugh Clements sets forth a plan by which this desirable end may be attained. In view of the very moderate amount of success achieved up to the present time by experts on meteorology, it is excusable not to indulge in extravagant hopes in the practical outcome of the Conference or in the efficacy of the scheme propounded by the writer referred to.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received—Leicester Daily Mercury, Western Daily News, Blackburn Daily Telegraph, Pontefract Express, Lancashire Evening Express, Cork Constitution, Oban Telegraph, Cheshire Evening Echo, Morpeth Herald, Louth and North Lincolnshire Advertiser, Liverpool Courier, North Eastern Daily Gazette, Poole Herald, Yorkshire Post, Jersey Observer, Coltridg's Express, Birmingham Gazette, Kentish Mercury, Bristol Times, Liverpool Daily Post, Bristol Mercury, Glasgow Herald, Stafford Evening Post, Dundee Courier, Wolverhampton Chronicle, Leeds Mercury, Reading Mercury, Mining Journal, The Morning Weekly Free Press and Aberdeen Herald, Public Health West Middlesex Standard, Surrey Advertiser, Local Government Chronicle, Hertfordshire Mercury, Metropolitan Journal, Scottish Leader, Cape Argus, Sunday Times, Builder, Architect, Observer, Sunday Chronicle (Manchester), Waterford Chronicle, Citizen, West Middlesex Advertiser, Leith Burghs Pilot, Scotsman, Indian Daily News, Pioneer Mail, Fraserburgh Advertiser, Times of India.

ver and diarrhoea, when they are prevalent at Chicago, prevail chiefly in those parts of the city which abut upon its noxious branch of the Chicago River.

The Lake at the time when our samples were drawn was free from chemical evidence of sewage pollution to an extent that, regard being had to the amount of sewage which in one form or another it receives is surprising. In connexion with this result it must be borne in mind that the season was peculiarly favourable to the purity of the Lake water. For some weeks before Dec. 10th the weather had been tempestuous, and it was only by seizing a favourable opportunity that the tug employed by our agent was able to get out upon the Lake. It may be taken for granted, therefore, that dredging operations had been suspended for some time, at least so far as dumping the sludge in the Lake is concerned. Still, when all due allowance is made for this circumstance, it is as we have said, a surprising fact that water taken from the Lake over the dumping grounds was of a quality save for its suspended matter, superior to that of the ordinary London water-supply—that is to say, the percentage of dissolved matter of organic origin was less than in the London waters, and as the suspended matter could all be removed by effective filtration it is plain that even at this point the Lake, under favourable conditions will supply water which wants nothing but the most ordinary treatment to render it fit for any and every domestic purpose. It is a result of our labours upon which we congratulate the people of Chicago most cordially and with the liveliest satisfaction that they have thus demonstrated the possession by the city of an illimitable water supply which needs nothing but good management to render it all that could be desired.

In one way this great boon has proved a bane to the people of Chicago, for, having so superabundant a supply of water ready to hand, they have—naturally enough, perhaps—used it as they found it, and consequently their very extensive water-works are designed with the view simply of pumping and in no way of treating by filtration, the water of the Lake. Unfiltered, this water is quite unfit for drinking by reason, as we have pointed out, of its suspended matter, hence the security of Chicago against a serious outbreak of epidemic disease depends entirely on the care with which the water is purified before use by means of domestic filters. This is the weak spot in the city's armour, and to this we desire in the most effective manner possible to draw the serious attention both of the citizens and of the urban authorities. The matter is one of capital importance to visitors to the city, it is of equal importance and of even more permanent concern to those who dwell there. Now it will be found on reference to the chemical report that our specimens have included two samples of filtered Lake-water. These samples should have been beyond reproach. Both had been treated by the Pasteur filter, and yet both were found to contain suspended matter in great abundance, so that neither could be trusted to be free from dangerous impurities. The explanation of this seeming anomaly is perfectly simple. *The filtered water had in both cases been cooled by the admixture of polluted ice.* No words are necessary to prove that this is a foolish and most mischievous practice. It manifestly renders the filtration wholly futile. Yet we are informed that it is common, even to the point of being almost universal, throughout the United States, but with any widespread custom we are not now concerned. Our attention is claimed by the city of Chicago and here during the present year the practice will involve the most formidable risk. The presence of a vast concourse of people drawn from every quarter of the globe is obviously a condition of things which calls for the adoption of special sanitary measures, and nothing whatever could be more plainly or more impudently demanded by the circumstances of the case than safe methods of treating the drinking-water. The general use of filters in the hotels and restaurants of Chicago is therefore, a necessary safeguard, but it is no safeguard at all if contaminated ice be permitted to dissolve in the filtered water.

It may seem perhaps that we are bestowing excessive labour upon an obvious point in thus insisting upon and reiterating a precaution which nobody will be found to deny, but it is a practical and not a merely logical aim that we have in view in writing thus. Our inquiry has brought to light a practice fraught with peril at any time and capable at the present moment of breeding mischief on an appalling scale. If this can be proved to be untrue and a better system introduced nothing more must be done than to demonstrate, however clearly, that the system complained of is inconceivably bad, and to point out, however instructively the simple and obvious

remedy of using two receptacles placed one within the other for the cooling ice and the drinking water respectively, so that they may not mix their contents or pass anything but heat from the one to the other. So much is easy enough, the difficult task is to make people understand and feel of how weighty significance such clear and simple statements are. For ourselves, we are so impressed with the importance of this point that we shall esteem the trouble and expense which we have undertaken in the prosecution of this inquiry to have been excellently well bestowed if, as the result of all, we can convey to our American hosts an adequate sense of the issues both to them and to us which are involved in the careful avoidance of this one channel of infection. The researches of which we to-day publish the results have brought to light a great number of points of first-class interest and importance to which, in this summary review we have so far made no allusion, but imperfect as this survey is, we prefer to leave it so, rather than to weaken, by passing to another topic, the effect of these observations upon the dangers of the contamination of drinking water by means of cooling ice. In other respects our examination of the facts has led to what is, upon the whole, a reassuring result, but we cannot feel free from very serious misgiving until we are reassured upon this point also, for the statistics of mortality show that Chicago suffered from typhoid fever nearly eight times as much as London in 1890 and nearly twelve times as much as London in 1891. To our own people we commend in the strongest terms the advice to *drink no water which has been cooled in contact with ice*, to the people of Chicago we appeal to provide a supply of water free from this reproach.

COURSE OF THE INQUIRY

In an article devoted to the subject of the inquiry of which the results are collected in the following pages we have explained the circumstances which led us to undertake the task. The results are fully set forth in the technical chapter which follows this, and which contains the reports drawn up by the chemists who have conducted the analyses of the lake, river and domestic supply waters. It will be interesting and indeed not unimportant to recount here, by way of introduction to that report, the steps by which the work has proceeded, in order that the true significance and value of the result itself may be ascertainable by those of our readers who may be interested to examine it in detail.

The first step taken, when the task had been resolved upon, was to obtain the fullest available information concerning the systems of drainage and water supply. The principal sources from which this information was collected were the Mayor's messages for the years 1890 and 1891. In these documents a very large amount of information was to be found, which we were able to supplement in a few particulars from less authoritative sources, and here it is only just to observe that, although unofficial sources of information are singularly meagre, we have found the city authorities exceedingly courteous in dealing with our inquiries and on all occasions most ready to give the information asked for. Except that most of it has come to hand in a somewhat fragmentary and disconnected form we have therefore experienced no trouble beyond that of asking questions in a distant place in the acquisition of such materials as were necessary for our purpose.

The raw material so obtained was placed in the hands of a member of our staff and from it he compiled a connected account of the general schemes of drainage and water supply which was furnished to the chemists by way of explanation of the specimens of the water which had been in the meantime analysed by them, and in this way it became a part of the materials upon which their report was based. At the same time a proof of this statement was forwarded to the Mayor of Chicago with an explanation of the objects aimed at in the inquiry and of the steps taken to secure its efficiency. He was asked to give the paper his attention and to favour us with his criticism upon it should he find it to be in any respect inaccurate and to bring to our knowledge any matters omitted therefrom which might appear to him necessary or proper to be considered in this connexion. The Mayor replied that he would cause an exact report of the drainage system and the water supply of the city to be prepared and furnished to us a promise which was duly redeemed a fortnight later. The official statement so furnished by the Mayor of Chicago has been given in this report as received from him in the form of letters from the several city authorities (city engineer and medical officer of health),

REPORT OF

THE LANCET

SPECIAL SANITARY COMMISSION OF INQUIRY

CONCERNING THE

WATER-SUPPLY OF CHICAGO, U.S.A.

THE city of Chicago has, speaking roughly, two outlets for its sewage matters—Lake Michigan and the Mississippi River—and one source of water supply—Lake Michigan. The Chicago River, which serves as main sewer to the city, flows naturally into the lake, but in order that its burden of sewage matters may not be all discharged there a powerful pumping station has been erected some distance up the stream on its southern branch. From this point the river water is pumped over a lock into a canal which carries it far south into the Missouri and eventually into the Mississippi River. The bulk of the liquid sewage is disposed of in this way. Several sewers serving the Lake shore districts of the city debouch upon the lake, but their aggregate output is estimated at less than 15 per cent. of the total sewage of the city. Subject to this abatement the Missouri and Michigan Canal receives as its quota of the whole discharge the liquid, dissolved and floating matters. The suspended matter which deposits as sludge on the river bottom is removed by dredging and carried out to the lake, which thus receives these solid matters in addition to the Lake shore sewers' discharge as its proportion of the city's drainage.

The water supplied for domestic and other use within the city is, as already stated, drawn from the Lake, and is conveyed to the pumping stations, which are distributed at various points throughout the city, by subterranean aqueducts extending for distances which vary from one to four miles under the bottom of the lake. The water is thus taken from points lying at various but no great distances from the sources of pollution, and chosen with regard to the observed effect which the sewers produce upon the condition of the Lake water. The water so obtained is pumped into the city mains and undergoes no filtration or other treatment until it is delivered in the consumer's house, save such as may result from the mixing of atmospheric air with it in the pumping operation and the deposition of some greater or lesser proportion of its suspended matters in the conduits through which it flows.

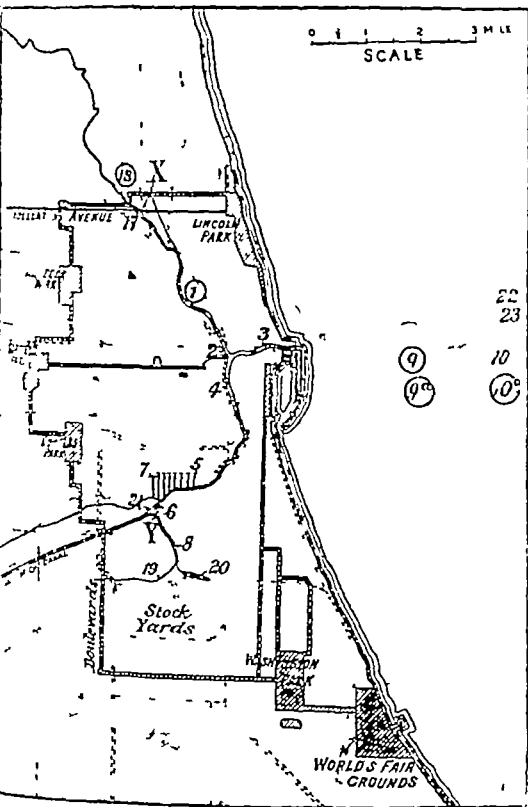
In addition to the water of the Lake, waters from three other sources of supply have been examined in the course of this inquiry. These are (1) the water of the Washington Heights artesian well, a source of supply for a limited district within the city which need not be considered in this place, and (2) and (3) the waters from the "Hygeia" and "Silurian" wells at Waukegan—spring waters which are largely consumed for drinking purposes within the city and of which the first named, "Hygeia" water, is by means of a special pipe to be brought in large quantities and distributed at a charge of one cent (one halfpenny) a glass throughout the World's Fair grounds. For the preparation of lake water for drinking the use of domestic filters is very common in Chicago, and may be said to be universal in the hotels, the form of filter most in favour being that known by the name of Pasteur—in design a very excellent instrument and one which, so long as it remains undamaged by fracture or displacement of its parts, may be relied upon to do its work efficiently.

Such in bare outline are the conditions under which water is supplied to Chicago. Those of our readers who may be interested to examine these facts more carefully will find them

detailed in the technical portions of the report of this Commission. We now proceed to deal here with the results to which the chemical examination has led. It will of course be understood that the chemical examination of water deals only with the question of pollution, not with that of infection. A water that is chemically of very high character in respect of purity may by chance be seriously infected with disease germs, and, on the other hand, a water which is extremely foul may be absolutely free from the seeds of specific disease. This question can only be positively answered by bacteriological examination and by the study of the effects of the water on those who drink it. No such bacteriological examination has been practicable in the present case, because of the length of time necessarily consumed in transporting the specimens from Chicago to London. The period so occupied would have sufficed for the occurrence of most important changes in the conditions of bacterial life upon which such an examination must proceed. The value of chemical analysis is chiefly due to its affording a very substantial ground of inference. Typhoid fever, cholera and diarrhoea are the principal disorders which are disseminated by sewage contaminated water, and in practice water receives such germs from sewage only. If, therefore, sewage contamination can be detected by any means, it is certain that the contaminated water is unsafe for drinking purposes, however innocent the actual sewage matter discovered may itself be, for the vehicle which conveys innocuous sewage to day may convey pernicious germs to-morrow. A water which is chemically impure, if the impurity be traceable to sewage contamination, must be an object of distrust, so also must a water which is excrementally polluted, even if chemical analysis fails to show evidence of this pollution. It is to the determination of the sewage derived constituents that the labours of Mr Crookes and of our own analyst have been chiefly directed and their detailed technical report has settled the rank in the order of purity of every one of the specimens of water subjected by them to analysis. For the citizens of Chicago and for anybody else who is interested in the elaboration of the large schemes of sewerage and water supply which must sooner or later be undertaken by the great and growing city, their report will possess a permanent interest, and will be of greatest interest precisely in those passages which are chiefly of theoretical significance—in those, for example, which deal with the condition of the Chicago River and the Lake dumping grounds. These, from our present point of view, may be summed in a very few words. The river is shown to have distinct characters in four different parts of its course. In the North branch it is satisfactorily pure and perfectly sweet water. In the Southern branch it shows increasing pollution as one travels back from the mouth towards the source, and in the branch which turns away towards the stockyards and lies apart from the main current of the river filth has accumulated to an extent which has converted the water into a material more offensive than the untreated outpourings of an ordinary sewer. And as the river is at this point, it is, however, unnecessary to warn visitors against frequenting its neighbourhood, for the simple reason that the stench of it is warning enough and no ordinary traveller through those parts is at all likely to approach the river unwittingly or to seek its precincts as a matter of choice. It is not at all surprising to find that typhoid

The thermometers used for this purpose were afterwards examined in THE LANCET Laboratory and their readings compared with a standard thermometer. They were found to be correct to within half a degree.

MAP I, SHOWING COLLECTION OF SAMPLES



EXPLANATION.—The numbers enclosed in circles represent samples lost in transit.

1. Chicago River at Putnam and Roberts Bridge. (This sample was lost in transit.)
2. Ditto at junction of north and south branches
3. Ditto between Wabash and Rush streets
4. Ditto at Union Depot.
5. Ditto at Dupont's Slip
6. Ditto at Fuller and Kost streets
7. A. Canal.
8. Chicago River abreast of Joliet steel works
9. Lake Michigan two miles out (These samples were lost in transit.)
10. " " near four mile intake (This sample was lost in transit.)
- 11, 12, 13 and 14. These were all samples of drinking water taken in different parts of the city, not shown on map (They were all lost in transit.)
- 15 and 16. These numbers were not used to designate samples at all.
17. Chicago River just below Fullerton Avenue.
18. Ditto half a mile above Fullerton Avenue
19. Chicago River two miles above Canal pumping works.
20. Ditto East Fork, close to stockyards
21. Canal near pumping station
22. Lake Michigan. Taken over dumping ground. Deep sample (12 feet).
23. Lake Michigan. Taken over dumping ground. Surface sample
- X. Fullerton Avenue pumping station for flushing north branch of river (Marked x on Map II.)
- Y. Canal pumping station for reversing current in river (Marked y on Map II.)

It will be noted on inspection of the table below (Table I) that the temperatures all through were low, indeed in some instances the water was but a shade above freezing point. Further than this, it so happened that cold weather prevailed throughout the journey of the bottles from the time of collection at Chicago to the day the samples were received at THE LANCET Laboratory. It is safe to assume, therefore, that little or no change in the composition of the water could have taken place.

OPERATIONS IN THE LABORATORY

The complete analysis of one sample was in each instance carried out before analytical operations were commenced with a second, so that the results might not be affected by

changes which, on the withdrawal of the stopper, might take place through exposure to air. In samples containing sulphuretted hydrogen the gas was estimated immediately on opening, a precaution the necessity of which was obvious from the fact that it gradually diminished in quantity and finally was absent altogether as indicated by loss of smell. Suspended matter was also immediately determined, as its character in some instances was observed to alter rapidly from the same cause. For this purpose a porcelain crucible with a perforated bottom, covered with asbestos wool, was employed. By this arrangement not only was the total amount of matter in suspension determined, but also the matter volatile on ignition (organic) and that which was fixed (mineral) were ascertained. In all other analytical operations the clear water was used.

With respect to colour determination, the ratios expressed in Table I below show the proportion of brown to blue in the water, the figures representing millimetres in thickness of the respective standard solutions. Thus 8 20 would express a colour composed of 8 millimetres of standard brown solution, superposed on 20 millimetres of standard blue solution (the normal colour of pure water). The organic carbon and nitrogen were determined by the excellent and accurate though somewhat tedious combustion process of Frankland. It consists briefly, first, in the evaporation of the water to dryness, either with sulphurous acid or phosphoric acid, according to the nature of the water, to fix the free ammonia present and to destroy the carbonates, nitrates and nitrites. The residue so obtained is then mixed with perfectly pure oxide of copper and burnt *in vacuo*. The carbon is thus obtained as carbonic acid gas and the nitrogen in the elementary form. By means of the Sprengel pump, these gases are pumped into a suitable tube and afterwards transferred to a gas analysis apparatus for analysis and measurement.

This process, it may be mentioned, was found to yield excellent results when a liquid containing a known amount of carbon and nitrogen was experimented with. The liquid so used contained an accurately weighed quantity of pure caffeine so that a thousand parts of the liquid were equivalent to 0.040 part of carbon and 0.023 part of nitrogen. The figures actually obtained in an experiment carried out on the lines just indicated were C, 0.044, N, 0.0225.

The free ammonia was determined in a few instances by distilling a known quantity of the water into acid of definite strength. In other cases the usual process of Nesslerizing the distillate was adopted. The total solid matter in solution was obtained by simply evaporating a given volume of the water to dryness, the hardness was found by the effect produced on soap solution of definite strength. The oxygen required was determined by means of an acidified solution of potassium permanganate acting in the cold for fifteen minutes and for three hours. The former result is taken to indicate the extent of very readily oxidisable substances—sulphuretted hydrogen, ferrous salts, nitrites, and probably some organic matter, and the latter obtained after deducting the former to indicate organic matter only.

The chlorine was estimated by means of a standard silver solution, the results obtained are calculated into the equivalent of common salt, 100 parts of which contain 60.7 parts of chlorine. Nitrogen, when it occurred as nitrate, was determined by means of phenol sulphonic acid, which is converted by any nitrate present in the water into picric acid and subsequently into yellow ammonium picrate on treatment with ammonia. The yellow colour so produced was compared with a solution of nitrate of known strength similarly treated. Nitrogen existing as nitrite was detected by means of the very delicate reaction taking place between the product of the action of nitrous acid upon sulphamic acid and amido naphthalene. A salmon pink colour due to formation of an azo-compound is produced. Lastly, the microscopic examination of the sediment was made, the results are recorded in Table II.

Having thus touched briefly upon the salient points in the analyses conducted, the results actually obtained (see Table I) may now be considered. They are expressed in all instances in grains per gallons.

REMARKS ON TABLE I

A close inspection of Table I leads to the division of the waters there enumerated into four characteristic groups.

I. Water excessively and grossly fouled with sewage and other animal matter.

II. Water decidedly polluted.

III. Water still polluted, but to a less extent.

IV. Water generally of good quality and organically pure.

and our own statement, revised and completed in the light of this communication, appears in the present context as Appendix I.

Whilst the work of collecting information was thus going on in one department, that of collecting samples of water for analysis was going on in another. For this duty the services of Mr. Frederic Myer, a journalist residing in Chicago, had been secured in the manner to which allusion has already been made in the earlier narrative. In order that there might be no mistake about the provision of suitable bottles and packing cases, these were attended to in London, and early in November last two packing cases, prepared and fitted by Messrs. Baird and Tatlock, were despatched to our agent in Chicago containing each a dozen bottles, all of which had been carefully washed, sterilised and stoppered and capped with parchment before being sent. The parchment caps were secured with THE LANCET seal and so business like did these empty bottles appear that the Custom House examiner at Chicago sent for the consignee and demanded of him what kind of gas he was importing into the United States. It seems that the McKinley tariff had not imposed a duty upon London atmosphere even when bottled, and so the bottles passed in with contents duty free. The bottles were accompanied by a piece of apparatus to be used in sinking and filling them and also by minute directions for their manipulation in this operation. These are fully explained in Appendix III to the present report.

So equipped, our agent set out upon the expedition. For this purpose he hired a steam tug and spent a day in what we do not doubt he quite accurately describes as very arduous work on the lake and the river. Stormy weather and other adverse circumstances prevented him from carrying out this operation until Dec. 10th last. How it was then carried out may best be seen in his own report and in the log of the expedition, both of which appear in Appendix III. On Dec. 14th the two packing cases left Chicago on their return journey, and on Dec. 21st they left New York for Liverpool on board the steamship *Germania*. Even then the troubles of the journey were only beginning, for, by a most extraordinary blunder, one of the cases, instead of being delivered at Liverpool and forwarded in due course to London, was sent back on board the *Germania* to New York, and only arrived a month later when the *Germania* returned from this second voyage. It had then been exposed to the cold wave which visited New York about the middle of January, and probably from this cause eight out of ten sample bottles which it contained had suffered fracture. The companion case, which came through in due course, reached us in perfect order, with all its samples intact and with unbroken seals, showing that they had reached THE LANCET Offices in precisely the same condition as that in which they left the hands of our agent at Chicago.

As soon as it was known that the samples of water had been obtained and were on their way from New York, arrangements for the chemical analysis were put in hand. We desired to obtain for this task the services of chemists whose skill and reputation would secure for their work unhesitating acceptance on both sides of the Atlantic, and therefore in the first instance we proposed to appoint a commission of three chemists and invited the American Minister in Great Britain to nominate one, the Royal Commission for the British Department of the Chicago Exhibition to nominate a second, reserving for our own analyst the third place. It was understood that if the American Minister consented to make such a nomination the Royal Commission would do likewise, but the former explained that it was a matter in which he did not feel himself authorised to act as desired, and intimated that the Mayor of Chicago would be the proper person to receive any such invitation. As it was manifestly impossible to hold the necessary communications with the Mayor of Chicago in the time at our disposal this proposal broke down completely and nothing whatever resulted from it.

It thus became necessary for us to fall back upon our own resources, and went once applied to Mr. Wm. Crookes, F.R.S., and requested him to undertake, in consultation with our own analyst, the work of analysing and reporting upon the samples of water obtained. This he very kindly consented to do, and the whole of this work has been carried out with his advice and assistance. THE LANCET Laboratory was specially fitted up for the duty and the arrangements were inspected and approved by Mr. Crookes. In like manner the Laboratory was visited by him from time to time whilst the work was in progress and he was provided with a duplicate of every sample which was there analysed. The

routine was to divide the contents of every bottle as it was opened into two portions—one was taken away by Mr. Crookes for independent control analysis, and the other was operated upon in our own Laboratory. It is not uninteresting as an example of the precision of modern chemical methods to remark that in the determination of chlorine, which was selected by Mr. Crookes as the standard test experiment, the series of figures given in Table I, and independently obtained, first in THE LANCET Laboratory and afterwards in Mr. Crookes' laboratory, were found to be in agreement to the second place of decimals. Now, as these results are expressed in grains per gallon, the effect of that statement is that the two analyses yielded results which agreed to *one part in seven millions*. It is as if two surveyors measuring a distance of 100 miles were to obtain the same result to a single inch, and were to repeat the operation fourteen different times in as many different places, always with the same startling coincidence of results.

The packing case which suffered so severely on the journey from New York contained all the specimens of drinking water at first obtained. These were all lost. Telegraphic instructions were immediately despatched to our agent to replace them, and this he proceeded to do, providing on this occasion his own bottles as time did not serve for sending out a fresh supply from this country. Such a precaution was indeed unnecessary, as he was already experienced in the work of bottling the samples and the taking of drinking water of course presented no difficulty. In one respect only did the treatment of these later samples differ from that of the earlier, that is to say, the bottles were stoppered with cork instead of glass. There seems, however, no reason to doubt that the corks were perfectly sound and effective stoppers, and, indeed, if any contamination had been occasioned in this way it would certainly have been made evident by a comparison of the domestic supply waters with the lake water samples (9, 9a and 10 of the first series). The comparison is, in fact, entirely satisfactory, and the analysis of the domestic supply waters is as worthy of trust as that of the first series of samples. The samples of the second series are numbered from 25 to 36 on the accompanying report and are not indicated on the map as they have no topographical relations properly so called.

CHEMICAL REPORT

The collection of samples was as has been already explained, entrusted to a specially appointed agent in Chicago, who was supplied from London with all necessary apparatus and instructions. The bottles selected for this purpose were of green transparent glass of 80 ounce capacity (the Winchester quart) and well stoppered. They were thoroughly cleansed and air dried, and the stoppers tied on with parchment and sealed with THE LANCET seal before being packed in the case. Every precaution was taken to ensure the contents of the case against damage. To this end each bottle was made to fit in a box lined with baize and padded with cotton wool. The lid was also fitted with padding in which the stopper neck and shoulder of the bottle were firmly embedded. The boxes were perfectly square, and twelve of them fitted exactly into an inner case. The inner case was closed with a lid by means of screws. The outer case into which it was placed was provided, as was also the lid, with rubber buffers to prevent shaking. The outer case was firmly screwed down and the corners protected with metal caps. Two cases so furnished were despatched direct from THE LANCET Laboratory to our agent at Chicago, who was instructed to carry out the following directions respecting the collection of the samples—

It is desired that samples may be collected at the various spots herein indicated. The letters (longitudinal lines) and figures (latitudinal lines) refer to the large scale map of Chicago in our keeping; a copy of which you also have.

[Here followed a specification of selected spots, which need not be repeated as the localities chosen were practically identical with those shown on Map I and enumerated in the log of the expedition.]

The temperature of the water and that of the air should be determined at each sampling station, and observations like the direction of wind, character of odour, rate of current, turbidity, nature of surroundings, recent disturbances by shipping &c., should be accurately noted, together with other information which appears to be of importance for the purposes of the present investigation.

It may be mentioned that one of the cases was further provided with a compartment in which was contained the apparatus necessary for the convenient collection of the river and lake samples. This apparatus is described and figured in Appendix III, p. 847.

To Group I belong the samples 19, 20 and 8. The district from which they were derived is distinguished by full black on the accompanying diagram.

To Group II. belong Samples 6 and 7 and the district from which they were obtained is marked by dark shading on the same diagram.

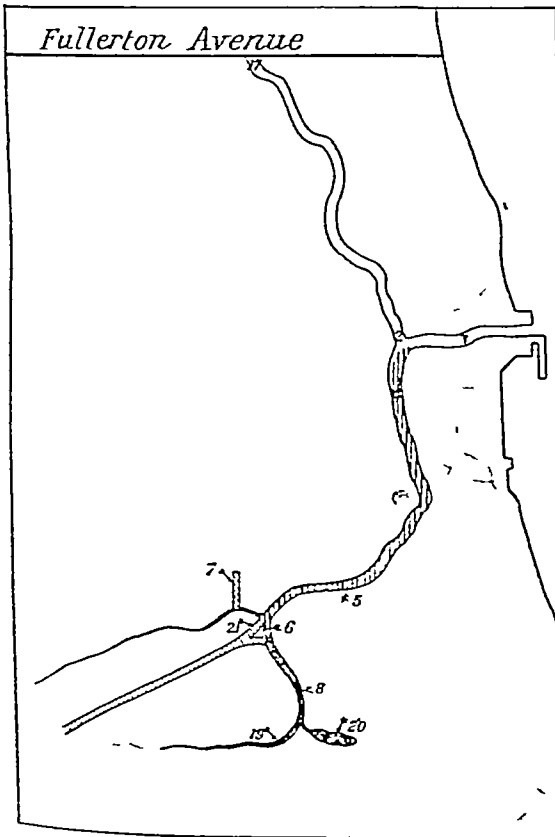
To Group III. belong samples 2, 4, 5 and 21, coming from the part of the river distinguished by light shading.

Lastly, to Group IV belong the samples 3, 17, 10, 22 and 23, the last three being lake samples. The districts from which the river samples were taken are indicated on the diagram by plain outlines.

Table III. giving the average composition of the members of each group, shows at a glance the chief variations in the analytical results obtained.

It is convenient to consider and discuss the groups *seriatim* and the individual members in each.

DIAGRAM SHOWING CONDITION OF CHICAGO RIVER.



EXPLANATION.—The plain outlines show unobjectionable water (Group IV). The light shading shows water unmistakably contaminated (Group III). The dark shading water very much contaminated (Group II). The full black, filthy water—very bad sewage (Group I). The numbers are derived from Map I. and refer to the samples of river water obtained for analysis as explained in connexion with that map.

Group I.—Words could hardly describe the filthy description of the samples belonging to this group. The observations made by our agent in this connexion at the time of collecting the samples and given in Appendix III. are of interest. That very little change had taken place in these samples during their journey to THE LANCET Laboratory was pretty evident from the fact that his observations with respect to the colour and smell of the samples were fully confirmed when they were submitted to analysis. They all emitted the disgusting odour of sulphuretted hydrogen—in fact on removing the stoppers from the bottles bubbles of gas were seen to escape. On removing the smell of sulphuretted hydrogen by the addition of a solution of iodine to the water the residual smell was even of a more disgusting type, resembling very closely accompanying fecal matter. During the evaporation of the residue for the estimation of the total solid matter

a sickening smell, partly resembling bad glue and partly sewage, pervaded the atmosphere of the laboratory.

A noteworthy feature in the waters of this group, as will be seen from Table III, is the excessive amount of ammonia contained in them, with a corresponding quantity of organic carbon and nitrogen, the relation of these elements indicating excessive pollution with animal matters. This is again confirmed by the enormous amount of chlorine, which calculated

TABLE II
Microscopical Examination of Sediment (River and Lake)

Sample No.	Observations
2	Swarming with bacteria, diatoms, parameria, monads and other moving organisms.
3	Bacteria, desmids &c., and silicious matter
4	Plant products bacteria, silica and iron.
5	Several groups of bacteria, monads iron and other mineral matter
6	Animal hairs bacteria, plant tissue in abundance.
7	Bacteria, monads mineral deposits and animal debris.
8	Teeming with bacteria and bacteria fronds, mineral debris &c.
10	Several bacteria desmids and mineral matter
17	Few bacteria diatoms, desmids and plant debris.
19	Several bacteria, mineral matter and plant debris.
20	Bacteria in abundance in well defined rod like chains mineral matter &c.
21	Plenty of bacteria desmids and mineral matter
22	Few organisms plant and mineral debris.
23	Bacteria protozoa and plant debris.

The numbers in this table represent the same samples as in Table I.

TABLE III.
Chicago Waters divided into Groups according to Composition, the Figures giving the Average Composition of the Members of each Group

Constituents	Group I (Nos. 19, 20 and 8)	Group II (Nos. 6 and 7)	Group III (Nos. 2, 4, 5 and 21)	Group IV (Nos. 3, 10, 17, 22 and 23)
Suspended matter	31.6	9.80	3.32	1.33 (Nos. 10 & 17 contained only slight sediment.)
Total dissolved solids	151.4	37.10	26.70	14.14
Ammonia	10.30	1.253	0.5600	0.0014
Initial hardness	16.14	13.770	13.11	8.25
Chlorine	66.26	5.630	2.75	0.62
= Common salt	103.60	9.24	4.51	1.03
Sulphuretted hydrogen H ₂ S	3.04	0.46	0.41 (Nos. 2 & 4 contained traces)	—
Oxygen required	1.00	0.218	0.1643	0.029
Organic carbon	2.92	1.340	1.060	0.123
Organic nitrogen	1.249	0.453	0.421	0.032
N in Nitrates	—	—	0.000	0.055
= Nitric acid	—	—	0.023	0.250 (Nos. 22 & 23 contained only traces.)
Ratio of C N	23.1	27.1	25.1	31.1

into common salt averaged as much as 103 grains per gallon. The suspended matter was black and on ignition evolved an odour of sulphur and of animal hair burning, the fixed residue was brown, from the presence of iron.

Microscopical examination, as a reference to Table II. will show revealed swarms of bacteria, mainly in the zoogloea stage, as well as low forms of plant life animal hairs and mineral matter. Bacterial growth steadily followed on the

TABLE I.
RESULTS OF ANALYSES OF SAMPLES OF WATER TAKEN FROM CHICAGO RIVER AND FROM LAKE MICHIGAN

Sample No	Where taken.	Depth in feet	Temperature.		Current disturbance	Colour		Suspended matter			Total dissolved	Ammonia.	Initial hardness	Chlorine Cl = NaCl.	Sulphuretted hydrogen.	Oxygen absorbed			Organic carbon	Organic nitrogen.	Nitrates and nitrites		C N	
			Air	Water		Blue	Brown	Organic	Inorganic.	Total						15 min	3 hrs	Difference			N =	HNO ₃ .		
2	Chicago River north and south fork.	2	24	37	No disturbance	20	Above scale	Small sediment			25.0	0.3430	10.39	2.52	4.13	*	0.2478	0.322	0.1442	0.923	0.383	*	*	2.41
3	Chicago River, near mouth.	2	23	33	None No disturbance	20	8	0.92	3.27	4.19	18.2	*	10.16	0.84	1.93	*	0.0243	0.403	0.0210	0.120	0.007	0.07	0.315	1.9
4	Chicago River near Union Depot.	3	22	38	None No disturbance	20	Above scale	4.76	3.78	8.54	25.0	0.672	10.60	2.45	4.01	Traces	0.1569	0.331	0.1107	1.568	0.488	*	*	3.4
5	DuPont's Slip	1	23	33*	None Slight	20	Above scale	2.00	None	2.00	29.4	0.225	14.72	2.95	4.33	0.714	0.5348	0.7000	0.1052	0.8067	0.540	*	*	1.5
6	Chicago River Fuller street and Post-street	1	22	40	No movement.	20	Above scale	5.18	5.74	10.92	37.8	1.3109	14.94	7.56	12.40	0.595	0.4050	0.7000	0.230	1.313	0.4020	*	*	2.8
7	Canal A	1	20	33	Half a mile from W	20	Above scale	5.60	3.03	8.63	30.4	1.1900	12.60	3.71	6.08	0.330	0.7053	0.6000	0.1074	1.3637	0.1034	*	*	2.7
8	Chicago River, 1 mile above Fuller street	1	23	56	Slight from E	20	Above scale	12.46	3.03	15.44	150.5	8.400	17.19	55.3	90.70	3.760	4.783	5.600	0.8120	2.228	2.034	*	*	1
10	Lake Michigan, 4 miles out.	0	21	34	Slight from N W	20	4	Slight			11.00	0.0085	7.31	0.56	0.92	*	*	0.0028	0.1208	0.0210	0.028	0.120	5.7	
17	Chicago River just below Fullerton avenue	1	24	34	None No disturbance	20	4	1.43	2.7	3.55	14.00	0.0035	8.26	0.85	1.45	*	0.0102	0.0358	0.0103	0.120	0.0336	0.182	0.819	3.7
19	Chicago River, 2 miles above Fuller street	1	23	48	None No disturbance.	20	Above scale	24.92	31.02	55.94	141.0	11.503	16.03	70.00	114.30	8.094	2.800	4.810	2.0100	2.829	1.065	*	*	2.7
20	Chicago River east fork, close to stock yards.	2	22	44	None No disturbance	20	Above scale	13.80	0.41	20.30	168.0	11.704	14.61	73.50	120.5	2.26	1.960	1.400	0.3500	3.703	0.0380	*	*	5.0
21	Tillnols and Michigan Canal off Bridgeport.	3	21	30	None No disturbance	20	Above scale	2.08	—	2.08	25.0	0.906	10.72	3.03	5.07	0.93	1.4320	1.6040	0.2326	0.9792	0.3000	Traces nitrites		3.2
22	Lake (Dumping Ground)	10	24	35	None No disturbance	20	4	Slight.			11.2	*	7.04	0.40	0.66	*	0.0102	0.0000	0.0404	0.1148	0.0504	Traces nitrates		2.2
23	Lake Michigan (Dumping Ground).	Surf	23	33	None No disturbance	20	4	0.40	1.260	1.06	15.40	*	7.73	0.40	0.66	*	0.0140	0.0358	0.0218	0.1900	0.0245	Traces nitrates		5

* Insignificant.

opening of the samples of this group till the water at last became quite opaque. This is not to be wondered at when, as analysis shows, the waters abound not only in nitrogenous matter but also in phosphates. The waters of this group, in fact, would serve as an excellent culture medium for the growth of organisms so abundantly does pabulum exist. The amount of phosphates is simply phenomenal on testing each sample in the group as it stood it was found to give an abundant precipitate with ammonium molybdate solution.

Group II.—In the samples of Group II the kind of pollution is precisely the same—that is to say it is mainly of animal origin, but the constituents which represent this contamination are smaller in quantity. Thus the salt is reduced to 9.24 grains, the sulphuretted hydrogen to 0.46 grain, the suspended matter to 9.80 grains, the ammonia to 1.25 grains and the carbon and nitrogen to 1.34 grains and 0.433 grain per gallon respectively.

The observations of our agent at the time of collecting the samples are in accordance with these results. The smell emanating from the samples on opening in the laboratory was objectionable enough, and on evaporation of the waters the disgusting smell of stale sewage was unmistakable. Phosphates were again found in abundance, whilst microscopical examination showed in No. 7 plenty of bacteria, weeds and silicious matter and in No. 6 vegetable debris, animal hairs, low forms of vegetable life and earthy matter. The character of the suspended matter was similar to that contained in Group I. It was black and evolved a disagreeable smell on ignition, and the incinerated residue was brown from the presence of iron.

Group III.—Of the members of this group, No. 21, from the canal off Bridgeport was decidedly the worst. It contained 0.93 grain of sulphuretted hydrogen, whilst No. 5 contained 0.71 and Nos. 2 and 4 only traces. Similar ranges in the quantity of ammonia and chlorine are noticeable.

Unmistakable as the contamination of these waters is it will be observed that the individual constituents which indicate pollution occur again to a less extent than in the preceding group. The suspended matter in the waters of this group was less in quantity but of the same kind. It evolved a disagreeable smell on burning and left a residue containing iron. The sulphuretted hydrogen smell of these waters was less strong, but on evaporation of the samples to dryness the same disgusting sewage odour was noticeable.

Nitrates it is interesting to note, occur for the first time to any measurable extent in this group, the amount averaging 0.63 grain calculated as nitric acid, and in one member (the carbonate of the whole series) nitrates were detected. Phosphates, best remarked again abound, and microscopical examination of the sediment showed a similarity in the samples. Thus in No. 2 swarms of bacteria were found, as well as monads and an excellent specimen of diatom, in Nos. 3 and 4 plant debris and bacteria, in No. 5 swarms of bacteria monads paramoecia, and in No. 21 bacteria, plant debris and mineral matter.

Group IV.—This group is sharply distinguished from the rest by a sudden drop not only in the amount of the constituents which are indicative of animal contamination, but also in constituents of a mineral character. Thus the ammonia dwindles to a mere trace, the organic carbon and nitrogen also diminish considerably, whilst there is a corresponding increase in the amount of nitrogen in the form of nitrate. These waters are less hard contain much less chlorine, absolutely no sulphuretted hydrogen, and the oxygen abstracted from permanganate of potassium was practically nil, from which it may be concluded that organic matters are almost entirely absent. The organic nitrogen of No. 3, it should be pointed out is somewhat higher than the others, and on this account would give rise to some little suspicion. It is suggestive, too that of the five members included in this group it was No. 3 that contained a measurable quantity of suspended matter (vide Table I.) Nos. 10 and 17 contained a slight sediment only. In addition to this water fleas were seen swimming about with the exception of No. 10 which was a sample taken in the lake four miles out. A reference to Table I. will show that three of the members of this group Nos. 10, 22 and 23, were taken from the lake, and the remaining two Nos. 3 and 17, were taken from the river at points where either the lake water has free access or is pumped in. A few bacteria, monads, desmids, procoeca, regular pond water organisms, water weeds &c. were discovered in the sediment of the members of this group. Phosphates were still present in this group, though less marked.

OBSERVATIONS AND DEDUCTIONS ON THE FOREGOING RESULTS

The foregoing results lead to some interesting inferences. Let the forms under which nitrogen is generally found in waters first be considered. Nitrogen may exist in organic matter, in ammonia, or in nitrates and nitrites. When it is present as organic nitrogen in the water present pollution with objectionable matter of some kind, generally sewage, is indicated, if it is present as ammonia, present and recent pollution may be indicated, but if present in nitrates in the absence of ammonia and organic nitrogenous matter then the pollution is probably an event of the past. Organic matter in fact by the natural purifying actions of the air, of the air dissolved in water, aided by specific organisms rapidly changes into ammonia and eventually into the complete oxidation product, nitric acid or nitrate (bases being present sufficient to neutralize the acid formed). When, however, nitrites are present, both past and present contamination with organic matter is indicated, for nitrites are known to be formed from the reduction of nitrates by organic matter. It is probable therefore that water containing nitrites as well as nitrates has been and is being contaminated. On inspection of Table III it will be found that both nitrates and nitrites are absent from those waters containing an excess of organic matter and of nitrogen. On the other hand, waters containing traces of ammonia, or no ammonia at all, invariably contain nitrates. This lends support to the views just expressed. The water containing most nitrate is No. 17, and this is a sample of water it is interesting to note, which was taken from the Chicago River below Fullerton avenue, just where water is pumped into the river from the lake. The presence of nitrates may there be accounted for by the action of the fresh aerated water of the lake upon the nitrogen contained in the organic matter, or the nitrogen existing in the river as ammonia above this point. Sample No. 3 illustrates again the oxidation of nitrogen taking place. This was obtained near the mouth of the Chicago River—that is to say, where the river water is most likely in contact with or has access to the lake water. The nitrogen as nitric acid amounts to 0.315, whilst as to nitrogen as ammonia, there is none. Traces of nitrates occur also in Samples 10, 22, 23 and 4 and existing pollution is indicated again by the presence of nitrites in No. 21. The entire absence of nitrates in waters containing sulphuretted hydrogen is noteworthy, reduction rather than oxidation being of course indicated.

Now, turning to the chlorine contained in the water, it will be seen that it varies as the ammonia. The presence of large quantities of chlorine may afford evidence of both past and present contamination unless the source of the supply is in close proximity to the sea. Sewage contains on an average seven to eight grains of chlorine per gallon. Inasmuch as the water supply of Chicago—that is, the water of Lake Michigan—does not normally contain according to these analyses more than 0.66 grains per gallon any quantity found in the water supply greatly in excess of that amount would naturally arouse suspicion. Attention might also be drawn at this point to the somewhat remarkable occurrence of phosphates to a more or less extent in all the samples. Phosphates are a normal constituent of course, of animal matter but they also occur abundantly distributed by nature in mineral deposits. We have no evidence whether Lake Michigan contains phosphates normally or not but the enormous amount of phosphates in the Chicago River especially near the stockyards points to pollution with animal excreta, at any rate the presence of phosphates in drinking water is not desirable, inasmuch as they minister to the growth of organisms.

The initial hardness of the waters would appear to vary directly with the extent of organic pollution, a fact which is probably due to the use of lime salts in many unwholesome industries. The lake water possesses eight degrees of hardness which is tantamount to saying that it contains eight grains of chalk per gallon, it possesses a hardness in fact less than half of that of London water.

Next may be noticed the variations in the amount of oxygen absorbed. The river water absorbed large amounts of oxygen consistently with the large amount of organic matter present. Samples from the lake absorbed little or none. The oxygen absorbed by a deep sample of lake water (No. 22) was more than that absorbed by the surface sample (No. 23) obviously because the latter sample at the time of collection had been in prolonged contact with the air. Where nitrates occur the

TABLE IV

COMPOSITION OF THE WATER OF CHICAGO RIVER (GROUP 1) COMPARED WITH THE COMPOSITION OF CRUDE SEWAGE
(GRAINS PER GALLON)

Designation	Total dissolved solids	Suspended matter			Organic Carbon	Organic Nitrogen.	Ammonia	Chlorine	Nitrogen as nitrates &c.
		Inorganic.	Organic.	Total.					
Chicago River	151.4	15.20	10.40	31.6	2.02	1.25	10.30	66.28	*
Fresh Sewage	50.54	10.02	14.35	31.27	3.257	1.54	4.69	7.40	0.002

* Insignificant.

TABLE V

AVERAGE COMPOSITION OF LAKE MICHIGAN WATER CONTRASTED WITH THE PUREST LONDON SUPPLY
(GRAINS PER GALLON)

Designation	Colour		Suspended matter			Total dissolved solids	Initial Hardness	Ammonia	Chlorine		Oxygen required to oxidise organic matter	Organic Carbon	Organic Nitrogen.	Nitrates.	
	Blue.	Brown	Inorganic.	Organic.	Total				Cl =	NaCl				N =	HNO ₃
Lake Michigan Water	20	0	1.43	0.47	1.90	14.14	8.23	0.0014	0.60	1.00	0.020	0.123	0.0039	0.0.5	0.250
London Supply (river derived)	20	13	—	—	—	28.05	18.50	—	1.183	1.017	0.040	0.100	0.029	0.270	1.210
London Supply (deep wells)	—	—	—	—	—	20.74	10.0	—	1.01	2.60	—	0.023	0.004	0.303	1.40

TABLE VI

RESULTS OF ANALYSES OF VARIOUS SAMPLES OF DOMESTIC SUPPLY, CHICAGO

Number of sample.	Where taken	Appearance	Colour		Total dissolved solids.	Free ammonia.	Ammonia liberated by per manganate.	Chlorine		Hardness	Nitrates.		Oxygen required
			Blue	Brown.				Cl =	NaCl.		N =	HNO ₃	
27	From a tank of Waukesha Hygeia.	Bright with slight sediment.	20	22	37.80	0.0140	0.0050	1.89	8.11	27.00	0.760	3.15	*
28	Pasteur filter-water, Monroe-street.	Bright sediment very slight	20	22	11.20	0.0056	0.0070	0.42	0.69	9.31	0.014	0.063	*
29	169, La Salle-street.	Bright, some sediment.	20	0	11.20	0.0070	0.0163	0.40	0.75	10.40	0.014	0.063	*
30	3204, Cottage-grove avenue.	Clear slight sediment.	20	0	14.00	*	0.0056	0.39	0.64	12.61	0.023	0.120	*
31	Washington Heights Artesian well.	Clear considerable brownish sediment.	20	12	104.30	0.0392	0.0056	10.78	17.78	43.43	0.014	0.063	*
32	Harrison street (water pumped from central station)	Bright, slight sediment.	20	15	10.50	0.0056	0.0042	0.42	0.60	9.10	0.014	0.063	*
33	Opposite North side pumping station Chicago avenue	Clear, slight sediment.	Above scale		10.50	0.0056	0.0056	0.42	0.69	9.31	0.023	0.120	*
34	Shurian water from ordinary ten gallon tank.	Bright very slight sediment	20	10	30.80	*	0.0042	0.42	0.60	18.62	0.350	1.575	*
35	West Madison street.	Clear slight sediment.	20	15	11.90	0.0056	0.0056	0.40	0.80	9.31	0.014	0.063	*
36	Pasteur filter water from house in Adam street.	Clear contained dirty flocculence	20	11	11.00	Trace	0.0042	0.42	8.60	8.26	0.021	0.095	*

* Insignificant.

† Contained nitrites.

‡ 25 and 20 These samples were lost in transit.

water of Lake Michigan contrasts very favourably with water supplied to London. This is strikingly illustrated in Table V, which contains the average analyses of two rivers of the London Supply (one river derived the water from deep wells) placed side by side with the analyses made in THE LANCET Laboratory of a sample of Lake Michigan water obtained at the intake marked 10 on the map. Thus, in respect of colour, total solid matter, hardness, chlorine and oxygen required to oxidise organic matter, the Michigan water is seen to be even superior to the choicest London's supply.

There is, however, one important difference which cannot be overlooked and that is that in all the samples of lake water there existed sedimental matter. The presence of water also was common to the lake samples with the exception of No. 10. This fact would have passed without comment if we did not know that the water is neither stored nor filtered, but distributed exactly as drawn from the lake. It is now known that careful filtration through beds of sand effects not only the complete purification of water from suspended matter, but, what is of greater importance, it removes also the existing organisms. As has been shown, the lake water contains low forms of vegetable life and also quantities of matter in suspension, and as these are likely to find their way to the mains the desirability of taking some precautionary measures of this kind is obvious. In consideration of these facts I counsel the public visiting Chicago to use nothing but boiled or filtered water in spite of the degree of purity which is indicated by chemical analysis. It is hardly possible now at the eleventh hour for the authorities to provide for the filtration of the Chicago supply on a large scale, but the water can be recently filtered as it leaves the tap. We need hardly insist here on the desirability of submitting all domestic waters to periodical cleansing, and, further, that their collection should be such as to provide in addition for the thorough impregnation of the water with air during filtration. Carelessness in the management of all domestic filters is worthy of strong condemnation, precautions of the very strictest order should be taken to ensure protection against the contamination of the water that may arise from the accumulation of filth in the pores. All filters should be so constructed that they may be submitted to the heat of boiling water for some time, in order that the filth and the organisms accumulated in their pores may be completely destroyed or removed. Boiling of the water wards off for certain many dangers, whilst it also renders the work of the filter considerably lighter, as by such treatment much of the solid matter dissolved in water is precipitated. Though boiling renders water insipid it renders it quite safe for drinking purposes and its palatability may be restored by adding, inasmuch as water at a low temperature is capable of taking increased quantities of air into solution.

In view of the excellent character so far as chemical analysis goes, of the water of Lake Michigan, which nature has placed, so to speak, at the very door of the city it is almost suicidal to run the risk that is now being run of seriously polluting so unlimited and pure a supply of water by the ugly dumping process, which consists in throwing Chicago's very worst refuse into its midst. That there is a better more rational, more wholesome and more effectual way by which it could be disposed of there can be little doubt. Indeed, the sewage and refuse of Chicago need never be discharged into the river in the raw and crude state in which it is evidently thrown into it now.

TABLE VII

Microscopical Examination of Sediment (Domestic Supply)

Sample No.	Observations.
5	Few micrococci, algae and mineral matter
23	Brown vegetable matter, few bacteria
29	Vegetable debris, plenty of bacteria, oxide of iron &c like lake samples.
30	Same as No. 29 desmids, bacteria &c.
31	Brown mineral and vegetable matter, hyphæ and few bacteria.
32	Paramoecia, bacteria, plant-tissue, desmids &c.
33	Few bacteria, micrococci, desmids, same as No. 29 dead water fleas.
34	Swarms of monads, and debris chiefly of vegetable kind.
25	Similar to No. 32 bacteria and plant tissue.
23	Ordinary pond water organisms, diatoms, few bacteria, infusoria &c.

DOMESTIC SUPPLY

Elsewhere it is stated that owing to the breaking of eight out of ten samples in the second case sent to THE LANCET offices, which contained specimens chiefly of the domestic supply to Chicago, our agent was instructed to repeat the collection of such samples. This was done, and a few weeks ago the case containing these new samples came to hand. Two bottles of the twelve contained in the case had unfortunately succumbed to the exigencies of travel. It is much to be regretted that one of these was a sample of water taken from a tank in the World's Fair grounds. The other was a sample of the ordinary supply to Chicago taken in a druggist's store in Sixty second street.

It is convenient to treat the samples of domestic supply separately and the results of analysis are therefore recorded in Table VI. In Table VII. will be found also the results of the microscopical examination of the deposits occurring in these waters. A comparison of the analytical results in this table, with the results recorded in Table I, which includes the river and lake samples, will show that the organic carbon and nitrogen were not estimated, the ammonia liberated on boiling the water with alkaline permanganate being introduced in their place. It was simply a matter of convenience to do so, as not only is the carbon and nitrogen process of Frankland very long and tedious, but a larger quantity of water than could well be spared is required to be operated upon. The albuminoid ammonia, as it is called, is, however, a reliable factor in that it serves to indicate the kind and, to an extent, the amount of pollution from certain sources.

A consideration of these results of analysis shows at once that two distinct classes of waters are being dealt with. To the first class belong Nos. 28, 29, 30, 32, 33, 35 and 36, and to the second Nos. 27, 31 and 34. The former are practically identical in composition with the lake samples, Nos. 10, 22, 23, Table I, the latter are derived from springs. The points from which all these samples were procured, are sufficiently described in Table VI. Neither is it considered necessary to indicate on the map the localities whence these samples came. The water supplied from the ordinary mains of the pumping stations may be considered first.

Ordinary supply—Attention has already been drawn to the desirability of filtering the lake water for drinking purposes. The necessity of adopting some precaution of this kind is again obvious when the above results are considered. Not a single sample of ordinary supply or lake-derived water was entirely free from sediment and the sediment in the majority of instances was found to consist of vegetable debris with numerous organisms, chiefly of the pond water kind.

In sample No. 33, which represents the water pumped by the North Side station supplied to the North Side residents, dead water fleas were found floating in the liquid. In fact in respect of suspended matter or deposit the water supplied in the mains is as was predicted, quite as unsatisfactory as the water taken from the lake. From another point of view indeed the samples are even more unsatisfactory. Take the measurement of colour for instance. Whilst the samples taken from the lake exhibit a remarkable freedom from brown colour, the highest being eight degrees and the other two being only four degrees the colour of water taken from the mains varied from nine to twenty-two degrees of brown and in one instance (No. 33 again) it was above the scale. This increase of brown tint is probably due to the waters having been in contact with the sediment which not improbably accumulates from time to time in the mains. Iron, again, would impart distinctive colour. We are therefore provoked to repeat our observations in regard to the necessity of filtration. The water supplied to Chicago from Lake Michigan is chemically satisfactory in all respects but one, it contains suspended matter. But with proper and efficient filtration there is nothing so far as its chemistry goes to suggest that the water supplied to the city is not well suited for all domestic and dietetic purposes. The residents of Chicago are evidently aware of the desirability of filtration, as it will be observed on inspection of the table that two of the samples (Nos. 23 and 35) had been filtered through Pasteur filters. In spite of this these samples were as bad as, if not worse than, the unfiltered water ordinarily supplied. On the face of it this may appear paradoxical, but the explanation of this seeming anomaly is not far to seek. It is customary in Chicago

oxygen required rapidly diminishes, in other words aeration and consequent purification have already been effected by natural operations. This is especially noticeable in the case of those river samples which have been mixed with the lake supply, to wit, Sample 3 near the river mouth and Sample 17 near the pumping station, Fullerton avenue.

There is little to remark about suspended matter, as what is recorded in the tables speaks sufficiently. It occurred to a slight extent in all the lake samples, whilst in one surface sample (No 23) there was sufficient to permit of estimation. Suspended matter in lake water was chiefly inorganic, whilst that from the river was largely organic.

INTERPRETATION OF RESULTS

The River—The disgusting condition of the Chicago River has been already made plain from the foregoing observations. With the exception of Samples 3 and 17, which practically consist, as has been shown, of lake water, the whole of the river samples exhibit a composition which in point of impurity vastly exceeds the limits in regard to liquids inadmissible into any stream laid down by the Rivers Pollution Commissioners. The extent of animal pollution in Group I is appalling. It is of the worst kind, animal refuse being indiscriminately mixed with common sewage. The pollution begins at the very mouth of the river and increases in intensity until a maximum is reached in the vicinity of the stockyards not far from the Southern Branch Pumping Station, where the filthy conditions are such as to defy description.

A glance at the temperature column of Table I will show that the temperature of the water varied from 33° F at the mouth to 44° F at the stockyards, whilst the air temperature was in no case higher than 24° F. It is safe to conclude, therefore, that the condition of the river in summer must be still more abominable.

A comparison of the analyses belonging to this group with the average sewage of towns in England is at once instructive and striking. The results are given in grains per gallon in Table IV.

The Chicago River at these points is even worse than crude sewage, and it is not surprising that the foul emanations and smells arising from the putrefaction of the animal offal and excreta which are evidently discharged into it in the raw state are described as vile, offensive and nauseating. Whether these smells sensibly affect the health of the neighbourhood is a question of importance to decide, the probability is that they do. No one will deny, however, that the existence of nauseating smells in the air is, in the interests of public health, very undesirable, and the inhalation of such offensive air, especially in times when epidemics are prevalent, should be avoided. It is reasonable to suppose further that air so contaminated is also germ laden.

Reference has already been made to the expedient by which a reverse current is induced in the Chicago River by means of pumps situated at the station marked Y on Map I. This arrangement, whilst it serves to maintain a current at the sluggish rate of one-third of a mile an hour and tends to some extent to replace the foul and dirty water of the river with pure lake water, can hardly be expected to affect the branch below Y, which serves the stockyards. The water here is probably quite stagnant, and filth must accumulate day by day.

At Points 6 and 7 on the Map—the latter from a canal immediately opposite 6—samples were taken which formed the members of Group II (see Diagram Map). These samples represent, therefore, the state of the water below the pumps. Doubtless the pollution of these waters is to a great extent due to the proximity of the branch which leads to the stockyards. Compared with the samples actually taken off the stockyards they are, as might be expected, somewhat less impure, but still of a repulsive character.

Turning to that part of the river which lies between the North and South fork and the pumping station marked Y on the map, we find that the impurities are further reduced. The samples obtained here belong, in fact, to Group III. They were all evidently polluted, but are waters in which the impurities have been attenuated by admixture with other water.

Next comes the northern branch of the river, which, it will be remembered, is swept by a current of lake water pumped into it at Fullerton avenue—the point marked X on the map—where powerful pumps discharge lake water into the river at an average rate of 10,000 gallons a minute. A sample (No 17) was obtained just below the station, and another (No 3) at the mouth of the river, both the samples exhibited the composition of lake water and are therefore included with the lake waters in Group IV, but, as might be anticipated, they

are in a slight degree less organically pure, being liable doubtless to contamination with river water. One interesting feature presented by these two waters is the amount of nitrates contained in them, which, as has been pointed out, would indicate oxidation of the nitrogen in organic matter effected by the introduction of fresh aerated lake water.

The Lake—In spite of the dumping process—that is, the discharge of sludge dredged up from the bed of the river into Lake Michigan—chemical analysis fails to furnish any distinct evidence that the lake is seriously polluted. It is well to bear in mind, however, that the sludge must consist to a large extent of insoluble matters, the greater part of the soluble constituents having been dissolved out probably into the river. The sludge would not contain any large amount of chlorides, for instance, for there would be a tendency for these to be washed out by the slow current which is induced to flow from the mouth of the river to the pumping station, but, on the other hand, it would be a matter of surprise if the sludge was free from phosphates, the greater proportion of which, being insoluble, would settle to the bottom of the river. Oddly enough, the lake samples contained distinct quantities of phosphates, but very little chlorine. We do not feel justified, however, in laying any particular stress upon this otherwise interesting observation, as it is quite possible that the presence of phosphate in the lake is, after all, a natural occurrence. There is no mention made, however, of the presence of phosphates in Chicago water in the following analysis made by Professor J W Mallet, F.R.S., in 1881. This analysis is interesting, in that the results show a remarkable agreement with those obtained recently in THE LANCET Laboratory. It certainly is remarkable, if it is not significant, that the chlorine, according to this analysis, was distinctly less ten years ago.

The following arrangement admits of an easy comparison between this analysis and that made recently in THE LANCET Laboratory—

Appearance	Chicago water	Lake water
	Analysis made in 1881.	Analysis made in 1893.
	Slightly turbid	Slightly turbid
Colour	Blue	Blue
Total solid	11.20	11.90
Chlorine	0.14	0.56
Organic carbon	0.098	0.120
Organic nitrogen	0.0217	0.021
Ratio C N	4.5 1	5.7 1
Ammonia	0.0066	0.0035
Nitrites	None	None
Nitrates	None	0.028
Oxygen required	0.028	0.028

The weights given represent grains per gallon.

It is certain, however, that if the lake were polluted to any serious extent it would contain much more chlorine and nitrogen in some form or other than was shown to be present according to the above analysis.

As a rule, the organic contamination of a lake is rapidly eliminated by atmospheric and other influences, light also being a potent factor, and whilst pollution may not exist, the presence of oxidised matter—e.g., nitrates—would to an extent indicate past contamination. Nitrates, however, were not found except in minute quantity. This fact cannot be accepted as trustworthy evidence in favour of the view of pollution not having taken place, since in lakes generally vegetation abounds and nitrates, it is well known, are rapidly absorbed by plant life.

Except for the presence of phosphates there is nothing contained in Samples 22 and 23 obtained over the dumping grounds in the lake, to indicate contamination from that source. Be it remarked, however, and it is satisfactory to note, that the intake sample (No 10) is a degree purer, chemically speaking, than the dumping ground samples referred to. It contained a measurable quantity of nitrogen as nitrates which were present only in traces in the water taken over the dumping grounds, the organic nitrogen was correspondingly lower, whilst the amount of oxygen required to oxidise organic matter was practically nil. In all these respects, indeed, the intake sample leaves little to be desired. Of the two dumping ground samples, the deep sample was a trifle less pure than that obtained at the surface, but the latter sample contained a notable quantity of suspended matter, which was probably floating on the top of the water at the time of collection.

The results of chemical analysis, therefore, lead us to the conclusion that the clear or filtered lake water is comparatively pure. It is of excellent quality and well adapted for both domestic and other ordinary purposes. In respect of organic purity,

the water of Lake Michigan contrasts very favourably with water supplied to London. This is strikingly illustrated in Lake V, which contains the average analyses of two waters of the London Supply (one river-derived the other from deep wells) placed side by side with the analyses made in THE LANCET Laboratory of a sample of Lake Michigan water obtained at the intake marked 10 on the map. Thus, in respect of colour, total solid matter hardness and oxygen required to oxidise organic matter the Michigan water is seen to be even superior to the choicest of London supply.

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A consideration of these results of analysis shows at once that two distinct classes of waters are being dealt with. To the first class belong Nos. 28, 29, 30, 32, 33, 35 and 36, and to the second Nos. 27, 31 and 34. The former are practically identical in composition with the lake samples, Nos. 10, 22, 23, Table I, the latter are derived from springs. The points from which all these samples were procured, are sufficiently described in Table VI. Neither is it considered necessary to indicate on the map the localities whence these samples came. The water supplied from the ordinary mains of the pumping stations may be considered first.

Ordinary supply—Attention has already been drawn to the desirability of filtering the lake water for drinking purposes. The necessity of adopting some precaution of this kind is again obvious when the above results are considered. Not a single sample of ordinary supply or lake-derived water was entirely free from sediment, and the sediment in the majority of instances was found to consist of vegetable debris with numerous organisms chiefly of the pond water kind.

In sample No. 33, which represents the water pumped by the North Side station supplied to the North Side residents, dead water fleas were found floating in the liquid. In fact in respect of suspended matter or deposit the water supplied in the mains is as was predicted, quite as unsatisfactory as the water taken from the lake. From another point of view indeed the samples are even more unsatisfactory. Take the measurement of colour for instance. Whilst the samples taken from the lake exhibit a remarkable freedom from brown colour the highest being eight degrees and the other two being only four degrees, the colour of water taken from the mains varied from nine to twenty-two degrees of brown and in one instance (No. 33 again) it was above the scale. This increase of brown tint is probably due to the waters having been in contact with the sediment which not improbably accumulates from time to time in the mains. Iron, again, would impart distinctive colour. We are therefore provoked to repeat our observations in regard to the necessity of filtration. The water supplied to Chicago from Lake Michigan is chemically satisfactory in all respects but one, it contains suspended matter. But with proper and efficient filtration there is nothing so far as its chemistry goes, to suggest that the water supplied to the city is not well suited for all domestic and dietetic purposes. The residents of Chicago are evidently aware of the desirability of filtration, as it will be observed on inspection of the table that two of the samples (Nos. 28 and 36) had been filtered through Pasteur filters. In spite of this these samples were as bad as, if not worse than, the unfiltered water ordinarily supplied. On the face of it this may appear paradoxical but the explanation of this seeming anomaly is not far to seek. It is customary in Chicago

TABLE VII
Microscopical Examination of Sediment (Domestic Supply)

Sample No.	Observations.
27	Few micrococci, algae and mineral matter.
28	Brown vegetable matter, few bacteria.
29	Vegetable debris, plenty of bacteria, oxide of iron &c. like lake samples.
30	Same as No. 29, desmids, bacteria &c.
31	Brown mineral and vegetable matter, hyphæ and few bacteria.
32	Paramecia, bacteria, plant tissue, desmids &c.
33	Few bac.eria, micrococci, desmids, same as No. 29, dead water-fleas.
34	Swarms of monads, and debris chiefly of vegetable kind.
35	Similar to No. 32, bacteria and plant tissue.
36	Ordinary pond water organisms, diatoms, few bac.eria, infusoria &c.

expedient by which a reversed current is induced in the river by means of pumps situated at the station marked *y* on the map, which transfer the water into the Illinois Canal. These pumps are apparently effective to the extent of preventing the flow into the lake of the very foul water which accumulates from the stockyards and other sources of pollution in the southern branch of the river. The northern branch of the river is swept by a stream pumped into it at Fullerton avenue—the point marked *x* on the map—where powerful pumps discharge lake water into the river at an average rate of 10,000 gallons a minute. Operations are in progress at the present time for superseding the canal pumping station *y* by means of a deepened channel cut across the high ground intervening between the city of Chicago and the slope drained by the Illinois River. This trench when completed will afford a bed upon which the water of the Chicago will gravitate down into the Illinois River, and will doubtless prove much more efficient than the present arrangement, but this work is not expected to be complete before the year 1895, and therefore, although a matter of prime importance to dwellers in Chicago, is of no significance whatever from our present point of view.

With regard to the disposal of the Chicago River sludge greater difficulties arise. In the first place, the dredging operations are not conducted upon any systematic plan. A certain amount of dredging is done by the urban authorities, but this is, we believe, confined to certain spots in the river, such, for example, as the waterway under bridges and the like. Much of the dredging is done by private enterprise, and it is of course difficult in those circumstances to enforce the strict observance of even the most necessary precautions. Steps have, we believe, been recently taken to secure a better control of the dredging work and especially to enforce the observance of the rules as to the selection of dumping grounds and the avoidance of other parts of the lake than those officially designated for this purpose. From the map (No I), in which the dumping grounds are shown, it will be seen that they are situated within two miles of the intake marked D. This proximity is probably to be accounted for by the fact that the dumping ground was selected long before the crib and its tunnel, which are the latest additions to the waterworks of Chicago, were designed. Whether it is intended, or indeed possible, to use other dumping grounds in future, we do not know. The inconvenience and even peril of the arrangement shown cannot possibly have escaped the notice of the city authorities, and it is probable that when public attention has been called to the matter they will be able to make reassuring announcements upon the subject.

Another danger and one of a peculiarly insidious character resulting from the imperfect dredging of the Chicago River must be kept in view in this inquiry. An enormous shipping traffic has sprung up upon the American lakes, which has converted Chicago into one of the five or six largest ports in the world. The craft carrying on this traffic find great inconvenience in navigating the river through the silting up of its channel, and it seems impossible to doubt that they carry river mud adhering to their bottoms far out into the lake. This, though not a source of pollution on any considerable scale, might easily become the means of occasional infection of the water supply.

The southern system, like the northern, is represented by a single pumping station, marked VI upon the map. Its intake is marked B, and situate about one mile from the shore, with which it is connected by a tunnel of six feet diameter. The single station is equipped with very powerful pumping machinery, to which an addition has recently been made of pumps which will deliver 24,000,000 gallons daily, this being the estimated requirement for the special purposes of the Exhibition. This intake is exposed to contamination both from the south shore sewers and the Calumet River, and its position is, we believe, considered by the city authorities to be for this reason unsatisfactory. Such as it is, however, it is the source from which must be derived the water to be supplied in Jackson park and the entire southern district of Chicago. This, therefore, is, next to the central supply, that which most nearly concerns visitors to the Exhibition. Within the Exhibition grounds the lake supply will be supplemented by an entirely independent service of spring water provided by the Waukesha Hygeia Mineral Spring Company, which has laid extensive water mains for distributing, and has connected its spring at Waukesha with the Exhibition grounds by something like 116 miles of water pipe. This water is to be sold at one cent a glass.

APPENDIX II.

The following letters have been kindly forwarded to the Mayor of Chicago as comprising a full statement of systems of drainage and water supply of the city of Chicago together with the observations of the medical officer of health upon the sanitary condition of the city—

Department of Public Works, March 2nd, 1891

E. Louis Kuhns, Esq., Commissioner

DEAR SIR,—Complying with your request of Feb 20th pencilled memorandum thereon, I beg to present a general report of the water resources of the city of Chicago, together with an outline map showing pump stations, tunnels, cribs, referring also to contemplated improvements.

The total pumpage for 1892 was 71,035,462,221 gallons average of 195,000,000 gallons per day, distributed thru the mains as potable water by means of seven pump stations—

1 Lake View	5 West Side.
2 North Side	6 Sixty eighth street
3 Central	7 Washington Heights
4 Fourteenth street	

1 *Lake View*—Located at the corner of Sulzer avenue Halstead street, containing the following engines—

Style	Date	Capacity
Gaskill horizontal	1892	12,000 (
"	1886	12,000 (
Worthington horizontal	1882	5,000 (
Flanders "	1892	2,000 (

Daily capacity 31,000 (

This station is fed by a 6 ft. brick tunnel, the temporary intake of which, now in use, is at a distance of 6500 ft., the permanent intake of which, to be opened during summer of 1893, will be at a distance of 10,000 ft. shore. It is contemplated to have in the north west part of the city another large pumping station, to be connected with the lake by means of a land tunnel joined to existing lake tunnel system opposite Chicago avenue.

2. *North Side*—Located at the intersection of Chicago avenue and Pine street, containing the following engines

Style.	Date.	Capacity
Pittsburg double beam	1872	36,000 (
"	1867	18,000 (
Gaskill, two double horizontal	1886	24,000 (
" single beam	1857	12,000 (
" "	1853	8,000 (

Daily capacity 98,000 (

The two last-named engines are not very often used and it is the intention to install in their place in the future more powerful and modern engines. This station derives its water from the original crib two miles out in the lake, connexion being two brick tunnels 5 ft. and 7 ft. respect in diameter. There is also an emergency tunnel 7 ft diameter leading to a new crib on the north west end of outer Government breakwater.

3. *Central*—Located on Harrison street, between Harrison and Desplaines streets, completed in 1891 and containing the following engines—

Style.	Date	Capacity
Allis triple expansion	1891	18,000 (
" "	1891	18,000 (

Daily capacity 36,000 (

This station is connected both with the land tunnel, 7 ft diameter, leading to the West Side station and with the land tunnel, which is a ramification of the new four lake tunnel described subsequently.

4. *Fourteenth street*—Located at the corner of Fourteenth street and Indiana avenue in 1891, deriving its water from the New Four mile Tunnel through an 8-ft. land ramification but also connected with the old 7 ft. land tunnel by means of a tunnel tapering from 5 ft. to 2½ ft. on Desplaines street and a 6-ft. tunnel on Jefferson street, and containing the following engines—

Style.	Date	Capacity in ga
Allis triple expansion	1892	18,000 (
" "	"	18,000 (
" "	"	18,000 (

Daily capacity 54,000 (

remains for another engine of at least the same as the present one which should be arranged for as possible.

Side—Located at the intersection of Ashland and Erie Island avenue, completed in its first half in 1882 containing the following engines—

Style	Date	Capacity in gallons.
Beam Corliss	1876	30 000 000
"	1893	30 000 000

Daily capacity .. 60 000 000

draws water from the original two-mile crib by means of a siphon across the town of the 7 ft. brick tunnel above as feeding the North Side station.

Sixty-eighth street—Located at the corner of Sixty-eighth and Oglesby avenue, whence a 36-in. water main has been laid to supply water to the World's Columbian Exposition, which will be an independent and direct connection with two new Gaskill engines of 12,000 000 gallons each, thus being enabled to send the entire output to Exposition grounds if needed. This station now contains the following engines—

Style	Date	Capacity in gallons.
McAllister	1892	6,000 000
McAll ..	1886	12,000 000
"	1888	12,000 000
"	1892	12,000 000
"	1892	12,000 000
Washington	1890	12,000 000
McAll vertical	1881	8,000 000
McAll	1878	3,000 000

Daily capacity 77,000 000

proposed to do away as soon as possible with the 30,000 000 gallons Cape-Maxwell, the 8,000 000 Holly vertical and 30,000 000 Knowlton all of which are out of date, out of repair and expensive in operation and to replace them with a single high-duty modern pumping engine of about 100 000 000 gallons capacity. This station is fed by a 6 ft. lake at Sixty-eighth street, details of which are given in the heading "Tunnels."

Washington Heights—Located on Vincennes avenue, One Hundred and Fourth street, and deriving its water from an Artesian well of a daily capacity of 500 000 gallons.

PUMPING PLANTS FOR CLEANING THE CHICAGO RIVER.

Fullerton-avenue Station, of a capacity of about 20 cubic feet per minute, erected in 1879 at Fullerton and the north branch of the Chicago River for the purpose of flushing the latter draws fresh water from the river through an intake off Fullerton avenue and a cross town tunnel and houses a vertical engine with horizontal bearings two propeller wheels which force the lake water the river against a head of about 2 ft., and thus creates a current in the north branch towards the junction with the river and thence down the south branch towards the Fullerton station.

Canal Pumping Station, located at Ashland avenue and Illinois and Michigan Canal, was erected in 1882 for the purpose of lifting the contents of the Chicago River into Illinois and Michigan Canal at the rate of 60,000 cubic feet per minute. It houses four sets of centrifugal pumps of initial capacity of 15,000 cubic feet per minute each, there now being exchanged gradually for four sets of lifting pumps of a contract capacity of 25,000 cubic feet per minute each against a head of 6 ft., under a contract with Centwright Hydraulic Machinery Company. The term of completion is July 8th, 1893, so there would be a capacity of 100 000 cubic feet per minute from that day on.

TUNNELS.

these there are four systems—

1. Lake View
2. Two Mile.
3. Four Mile.
4. Sixty-eighth street.

Lake View—Mentioned under the heading of Lake View Pump Station. This is a 6 ft. tunnel, and has a capacity of 100,000 gallons per twenty four hours.

Two Mile—The tunnels terminating at the two-mile crib have a diameter of 5 ft. and 7 ft. respectively as mentioned above, and an aggregate daily capacity of 158,000 000 gallons. If the shore gate of the 7 ft. inlet tunnel terminated at the exterior Government breakwater (see under

North Side Pumping Station) were to be opened fully, the aggregate capacity would be upwards of 220,000,000 gallons, one-half of which would be furnished by the short emergency tunnel. This has never been done. It is contemplated to extend this 7 ft. shore inlet tunnel to the two-mile crib, join it with the 5 ft. and 7 ft. tunnels terminating there into a single 13 ft. or a double 10 ft. tunnel, and extend the system thus simplified to a point four and a half miles from shore, where a new intake would be constructed. The capacity of this system would be 270,000 000 gallons per twenty four hours.

3. Four Mile—The new four mile tunnel, which was completed in November, 1892, has a diameter of 8 ft. and a daily capacity of 140 000,000 gallons. The new pumping stations on Fourteenth and Harrison street's derive their water from this tunnel, as mentioned above.

4. Sixty-eighth street—This tunnel has its present (submerged) intake one mile from shore, a diameter of 6 ft. and a capacity of 72,000 000 gallons. For the purpose of improving the quality of the flow it is being extended as a 7 ft. tunnel to a point two miles from shore under a contract with Messrs. Lydon and Drew of this city, which sets the date of completion of the new work and of filling the extended tunnel with water from the new intake at Feb 20th, 1893. The city intends to establish, in addition to the two cribs and shafts with three working faces provided in the contract, two more cribs and shafts increasing the number of working faces to seven, and thus expects to pump water from the new intake by July 1st 1893. The quantity of the flow is not altered by the extension.

SUMMARY OF PRESENT CAPACITIES.

I.—Pumping Stations

	Gallons.
1. Lake View	31,000 000
2. North Side	93,000 000
3. Central	36 000 000
4. Fourteenth street	54 000 000
5. West Side	60,000 000
6. Sixty-eighth street	77 000 000
7. Washington Heights (Artesian well)	500,000

Total capacity for twenty-four hours 356 500 000

II.—Tunnels

	Gallons.
1. Lake View	72,000 000
2. Chicago avenue	220,000 000
3. Four Mile	140 000 000
4. Sixty-eighth street	72,000 000

Total capacity for twenty-four hours 504 000 000

Outline map enclosed.*

Yours truly

DION GERALDINE, City Engineer

Department of Public Works March 2nd 1893.

E. Louis Kahns Esq. Commissioner

DEAR SIR,—I beg to supplement my report of this morning with the following relative to the sewage of the city:—About 85 per cent. of the entire sewage of the city is discharged into the Chicago River thence by the agency of the Canal Pump Works through the Illinois and Michigan Canal into the Desplaines River and thence into the Mississippi.

Yours truly

DION GERALDINE, City Engineer

Department of Public Works, March 4th, 1893.

E. Louis Kahns, Esq., Commissioner

DEAR SIR,—Eighty five per cent. (85 per cent.) of the total sewage of the city and especially the whole of the sewage of the business and manufacturing parts of the old city, is discharged into the various branches of the Chicago River and indirectly by means of the Bridgeport Canal pumping station, aided by the Fullerton-avenue flushing station, both of them described above into the Illinois and Michigan Canal, thence into the Desplaines River thence into the Illinois River, thence into the Mississippi River.

By far the greater portion of the remaining 15 per cent. of the total sewage of the city is furnished by districts devoted exclusively to residence and park purposes and is discharged directly into Lake Michigan through the following

* The data of this map have been incorporated in Map II.—En. L.

sewer outfalls, distributed along shore line twenty miles in length —

	Feet in Diameter		Feet in Diameter
<i>Lake View</i>		<i>Old City</i>	
Grand avenue Sewer	4	Twelfth street	5
Bryn Mawr	4	Twenty second street	6
North Fifty ninth street	4	Thirty fifth street	6
Lawrence-avenue	4	<i>Hyde Park</i>	
Graceland avenue	2	Forty first-street	4
Grace street	3	Forty third street	2½
Roscoe street	3	Forty fifth street	4
Belmont-avenue	2½	Fifty first-street	5
Surf-street	3	Fifty third street	2½
		Fifty sixth street	4½

A very small portion of the 15 per cent of the total is furnished by the manufacturing district in the Calumet basin and is discharged into the Calumet River, whence it cannot pass in its crude condition into Lake Michigan except in time of flood. The following are the sewer outfalls of this district —

Strand	5 feet	Ninety fifth street	4 feet
South Chicago-avenue	5 "		

The board of trustees of the sanitary district of Chicago are now constructing, under authority of an Act of the Legislature of the State of Illinois, a combined drainage channel and navigable water way of very large dimensions, which, when completed, will carry a *gravity flood of 600,000 cubic feet per minute* from Lake Michigan through the Chicago River, and eventually, it is expected, through the Calumet River also into the Desplaines, Illinois and Mississippi Rivers, superseding the present Illinois and Michigan Canal. It is intended to carry intercepting sewers along the lake shore and to discharge them into the river flow away from the lake. In this manner Lake Michigan will be protected absolutely and at all times against the entrance of any sewage from the city of Chicago.

Yours truly,

DION GERALDINI, City Engineer

Department of Health, City of Chicago, March 7th, 1893.

To His Honour the Mayor

I have the honour to report, in pursuance to your request for information concerning the supply of water, quality &c., that never before in the history of Chicago, population considered, have there been as few deaths as during the past fourteen months.

A year ago I caused to be made an examination of each case of typhoid fever reported where death resulted, and of the four hundred and over there were less than 5 per cent. of the cases where the attending physician ascribed the cause of death to the water supply. In many instances the patients were newcomers and had not become acclimatised, and it is possible and probable that they were more susceptible than they would have been under other circumstances. This may in a measure have accounted for the increased number of deaths during some portions of the winter of 1891-92 and should not properly be attributed to the water supply of the city. At intervals during the past two years analyses of the water have been made, and with few exceptions—and then under conditions of wind and weather that made it not a fair test—the quality has been equal, if not superior, to that of any of the large cities of the world. The conditions that now exist are sure to gratify the expectations of the most sanguine so far as an ample supply of pure and wholesome water is concerned.

As will be seen in the report of the city engineer 85 per cent. of the sewage of the city runs into the Chicago River and by means of pumps is transferred to the canal and thence out of the city, the very small proportion of sewage remaining which flows into the lake is at remote points from the intakes of the tunnels. The tunnels being situated two and four miles from shore makes it almost an impossibility, from their positions in the lake, to admit of any contaminations to the water supply.

I readily appreciate the importance of this question to those who are contemplating a visit to this city during the World's Fair and assure you that, judging from the results of the analyses, the conditions which surround the procuring of water would lead me to believe from a medical standpoint that, unless some unforeseen accident should arise, our thousands of visitors will have no cause for complaint at the quality of water furnished.

I have the honour to be respectfully yours,

JOHN D WARE, M.D.,
Commissioner of Health.

Deaths from Typhoid Fever during the years 1890, 1891 and January and February, 1893

	1890	1891	1892
January	53	67	311
February	136	61	187
March	103	71	76
April	45	136	56
May	82	408	70
June	107	167	55
July	86	200	211
August	115	182	179
September	95	198	138
October	72	171	92
November	67	150	67
December	47	186	47
	1008	1997	1489
Total deaths	21,856	27,754	26,219
Percentage of deaths from typhoid fever	4.61	7.19	5.67

The following letter, under date March 21st, 1893, been received direct from Dr Ware

DEAR SIR,—Your letter of March 8th to his Honour Mr Washburne has been forwarded to me. The contents have been noted. In reply, will say had it not been for sick I should have forwarded a reply before this date. I did see the report that was forwarded to you some days since his Honour, but I am assured that the plans &c. contained that report were absolutely correct, and in addition to the forward you to day two reports of analyses of the drink water supplied to the city of Chicago, under date of Jan. 1 and March 16th. These analyses were made from water as it drawn from the hydrants and not taken from out in the lake. The analyses shown were made by Professor Walter S. Hall and it would seem there is very little to complain of in character of our drinking water, notwithstanding so many adverse criticisms to the contrary. I trust that these may in time be included in former statements sent you.

I have the honour to be, Sir, respectfully yours,

JOHN D WARE, Commissioner of Health

[COPY]

	Date, Oct. 10th.
Nitrogen as ammonia	0.006
" albuminoid ammonia	0.123
" nitrates	0.016
Total nitrogen	0.145
Chlorine	2.9

	Date, Oct. 13th.
Nitrogen as ammonia	0.0104
" albuminoid ammonia	0.122
" nitrates	0.020
Total nitrogen	0.1524
Chlorine	2.85

	Date, Oct. 15th.
Nitrogen as ammonia	0.0092
" albuminoid ammonia	0.094
" nitrates	0.030
Total nitrogen	0.1332
Chlorine	2.95

Expressed in parts per 1,000,000.

	Parts per 1,000,000 of water
Nitrogen in ammonia	0.0144
" albuminoid ammonia	0.0840
" nitrates	0.0640
Total nitrogen	0.1624
Chlorine in chlorides	2.7

	Parts per 1,000,000 of water
Nitrogen in ammonia	0.056
" albuminoid ammonia	0.056
" nitrates	0.020
Total nitrogen	0.132
Chlorine in chlorides	2.6

APPENDIX III.

COLLECTION OF SAMPLES

The following instructions were issued to our agent in accordance with the guidance in the collection of samples. His report upon the operations and the log which he compiled of the expedition are also appended.

INSTRUCTIONS FOR MANIPULATING THE SAMPLE BOTTLES AND TAKING SAMPLES.

The cases will be found to be perfectly easy to open, being opened only with screws. The inner case may if necessary be withdrawn from the outer by means of the handles upon its lid, before the lid is unscrewed, but probably it will not be necessary to withdraw it.

The bottles are numbered 1 to 24 and an accompanying paper gives the particulars concerning the taking of the samples which are required. The particulars may be conveniently entered in a small notebook and arranged in the form shown in the margin hereof. If through inconvenient surroundings any of the original notes should be illegible or difficult to read, an explanation may with advantage be added but no attempt should be made to use ink or otherwise convert them into anything but rough notes.

A sinker accompanies the bottles which may be used in the following manner. The bottle is introduced into the tin holder and made fast therein by means of the wire strap which passes over its shoulder. The glass stopper is then to be withdrawn and the cork stopper substituted in its place. The weight must next be attached to the bottom of the tin holder and the whole sunk to the required depth as indicated by the metal tabs upon the suspending cord. This done, a pull upon the stopper-cord will draw the cork and the bottle will fill. The bottle is then to be drawn gently up to the surface and the glass stopper introduced whilst the neck is still immersed. The bottle may then be taken out of the water and the stopper tightened in its place, after which it should be immediately tied up with string. When a convenient stopping place is reached the parchment caps must be placed over the stoppers, the stoppers tied with the string sealed. The caps are to be made lissom by soaking them in water for a few minutes before use.

For return the covers of the cases may be placed clean and the address stencilled on in place of that at present upon them. For the benefit of our readers we give above a drawing of the taking apparatus.

REPORT ON THE COLLECTION OF SAMPLES OF LAKE MICHIGAN AND CHICAGO RIVER WATERS.

On Saturday, December 10th, 1892, at 8 A.M., I started to go to Dunham's 210 South Water street. I had previously placed twenty of the bottles received from the LANCET Offices in the wagon, and I rode down to Dunham's with them. Immediately upon arrival there I was introduced to Captain William Smith, who was directed to accompany me on my expedition and to lend me every assistance in his power to enable me to take, as carefully as possible, the samples of Lake and Chicago River water. I was instructed to collect. I was on board the *Bob Tied* at 9 A.M., and as there was but a slight wind blowing the captain deemed it advisable to proceed at once out on the lake.

Our first stoppage was at a distance of two miles off the Court House. When the tug was at a complete standstill Captain Smith assisted me in taking samples of the water of Lake Michigan, at a depth of six feet below the surface and

also at the surface. Both operations were carried out according to instructions received from you. In my notebook you will find details as to the temperature of the water and also of the air and the result of other observations you requested me to make. These notes were written down as each sample was withdrawn from the water, and no alteration whatsoever has been made to them. Our next stoppage was at four miles off the Court House, where I took two samples of Lake water—the first at six feet below the surface and the second at the surface—adhering strictly to your instructions and duly noting my observations in the book I am forwarding to you.

I took two more samples of the Lake water at a distance of five miles from the Court House, near the dumping grounds. These samples were taken at the surface and at a depth of twelve feet. The details are in the notebook.

I may here remark that Captain Smith is one of the most capable pilots on Lake Michigan and that he has been navigating that lake for the last fifteen years. His estimates of distances may therefore be assumed as absolutely correct. Personally, I was guided by the Two Mile Crib and the Four Mile Crib, and I feel perfectly convinced that we stopped at two, four and five miles respectively off the Court House.

The operations on Lake Michigan were then terminated, and we made headway for the river. Our first stoppage was at Wabash and Rush (Rush street bridge), where one sample of Chicago River water was taken at two feet below the surface. As each sample was withdrawn from the water I fixed the glass stopper firmly and placed a label on the bottle with its number, which number corresponded with a page in my notebook, so that no error was possible. Each bottle furthermore was carefully replaced in the box in which I had taken the bottles aboard the tug and, to ensure against possible mistakes, I inscribed on the box itself near the corner in which each bottle was placed, the number of the label. When I returned to my rooms I wrote out another set of labels with pen and ink and placed them on their respective bottles, after which I covered the stoppers with parchment and tied them up firmly. Finally I sealed all the bottles, and with them have returned to you the thermometers employed, my note-book and the seal employed by me.

After Rush-street-bridge the next sample was taken in mid stream, where the Chicago River branches off north and south, at a depth of two feet below the surface. We then proceeded up the north branch of the Chicago River taking a sample at Putnam and Robert's streets—that is to say, at Erie-street-bridge—at one foot below the surface. The bridge at Fullerton avenue being open, we passed through and proceeded half a mile above Fullerton avenue (Map L.) where we took a sample at one foot below the surface. The next sample was taken immediately below Fullerton avenue at one foot below the surface.

These collections terminated our expedition on the north branch of the river. We returned towards the spot where the river branches off north and south and then proceeded up the south branch. To gain time, and so as to complete all sample-taking before it became too dark, the captain deemed it advisable to proceed at once to the stock-yards and collect samples on our return journey.

It was a long trip up the south branch, and the bridges somewhat delayed us. However about 1.30 P.M. we were able to collect a sample on the East Fork, close to the stock-yards at two feet below the surface, another at two miles above the Pumping works south branch, one foot below the surface, another in the canal off Bridgeport, another off A. canal, another abreast of Joliet Steel Works (one mile above Fuller street), one at Fuller street and Rost-street, one off Dupont's Ship, and, lastly, one opposite the Union depot. All these samples were taken with the greatest possible care, and all observations about each one duly noted in the book forwarded to you.

We arrived at our landing-place opposite Dunham's (E 3) corner of Wells-street and the river—Dunham's being at the corner of South Water street and Fifth-avenue (Wells-street is the continuation of Fifth avenue on the north side). We disembarked here, it being more convenient for carrying off our samples. The wagon that conducted me to Dunham's in the morning met me, as agreed, at 3 P.M. and took the bottles back to my rooms where I added a second label, so that no possible error could arise as to identification. After

